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ABSTRACT

In October 1996, the Big Picture Company set out to find six urban high schools that use school-to-work strategies as a lever for whole-school reform. In the schools finally selected for the New Urban High Schools Project, and in others examined for the study, "school-to-work" is a misnomer, because the majority of students are entering postsecondary institutions at a rate of about 80%. For the majority of students, school-to-work promises better college preparation than college prep programs. This guide consists of hands-on, adaptable tools to help practitioners provide students with rigorous project-based learning experiences in the school, workplace, and community. Drawn from the work of the New Urban High School Project, the guide also tells the stories of the six chosen schools. The design principles that these schools exemplify may be summarized as: (1) personalization; (2) adult world immersion; (3) contexts for reflection; (4) intellectual mission; (5) community partnership; and (6) teacher as designer. The practitioner materials are organized into sections on "Connecting Activities," "Work-Based Learning and Mentoring," and "Activities for Educators." A glossary is included. In addition to the 6 works cited, 26 print resources for further information are listed, along with 4 video/film resources. (SLD)

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ED 423 351

The New Urban High School

A Practitioner's Guide

A joint venture of the Big Picture Company and the U.S. Department of Education's Office of Vocational and Adult Education.

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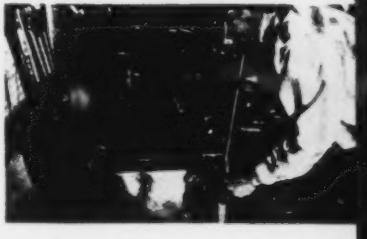
The New Urban High School

Introduction

IN OCTOBER 1996, under contract to the U.S. Department of Education's Office of Vocational and Adult Education (OVAE), the Big Picture Company set out to find six urban high schools that use school-to-work strategies as a lever for whole-school reform. Our search took us to 16 cities and 23 highly regarded urban high schools. In the process we observed many instances of the strategies that OVAE was looking for: work-based learning, vocational-academic integration, mentoring, post-secondary links, career exploration, and supportive learning environments.* However, schools that were employing these strategies on a whole-school basis were few and far between. This confirmed what we had experienced in our previous work in this field: it is virtually impossible to support work-based and community-based learning for all students without fundamentally redesigning schools.

In our selected schools and others like them, three critical findings apply. First, "school-to-work" is a misnomer. At ground level, in real schools, this reform effort is not about jobs or careers; it's about learning. Anecdotal and research evidence indicates that students in well-structured school-to-work programs are not going directly into the work force, but instead are entering post-secondary institutions at a rate of about 80 percent — as opposed to a rate of 62 percent for high school graduates overall.** In fact, for the vast majority of students, school-to-work promises better college preparation than "college prep" itself. The reason for this dramatic result was made clear by a student we talked to in one of the career academies in a comprehensive high school: "If you're not in one of these programs, it's kind of hard to see your future." And that future, when students in these programs see it, includes college.

Second, work-based and community-based strategies change the context for teaching and learning. The great power of school-to-work is that it situates students in the adult world of work and learning, confronting them with unpredictable situations, new perspectives that cut across subject matters, and invaluable lessons in dealing with people in the world. During our search, student after student testified to the value of the working relationships they have formed with adults beyond school. The critical point here is that most high schools routinely isolate students from the adult world — and that this isolation must cease.



*Together, these six elements encompass the three broad components in the School-to-Work Opportunities Act of 1994: work-based learning, school-based learning, and connecting activities. For an elaboration, see Appendix: The Six Elements.

**For example, a recent study by the Boston Private Industry Council shows school-to-career students in Boston's ProTech program, particularly African-American students, as more likely to attend college, stay in college, earn degrees, and find employment than a comparison group. For further information, contact Jobs for the Future, One Bowdoin Square, Boston, MA (617) 742-5995.

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Finally, exemplary school-to-work practice puts students — their observations, their actions, their reflections — at the center of the learning. It places teachers and students together in the position of inquirers, requiring them to share questions and authority. In this sense, school-to-work at its best is both inclusive and democratic, for it invites students to participate in the creation of new designs for learning.

Two questions, then, have emerged for this project:

1. How can educators and community partners help students connect their school work with work in the world? The practitioner materials in this volume, drawing on the work of NUHS sites, consist of practical tools for teachers, students, and mentors, adaptable to a variety of contexts.

2. How can we extend these practices to all students? Conventional school structures and practices severely limit the capacity of schools to support student learning in the world. That is why we begin with case studies of the NUHS sites, focusing on their distinctive characteristics, the significant barriers they have overcome, and the designs they offer for whole-school change.

Case Studies: New Designs for Learning

In our search for sites we gained a new appreciation of an old lesson: that school change is a local matter. In effect, we became horticulturists, looking not for a single model but for local variety. The NUHS sites include a large, restructured vocational school in Chicago, a new school of technical arts in Miami, a small community school in New York City, a comprehensive neighborhood high school in San Diego, and a new career academy in St. Louis. Our lab school in Providence is a regional career and technical center.

All of the NUHS sites link experiential learning with other reform strategies. Four are members of the Coalition of Essential Schools, emphasizing personalization, intellectual focus, and teachers as designers. The three larger schools have created smaller learning communities by dividing into broad career strands or academies. All of these schools articulate a clear intellectual mission that goes far beyond any simplistic narrative about career development.

Site Signature

Each NUHS site has a distinctive "signature" that makes it unique. One school offers a dual diploma, whereby all graduates leave with a high school diploma and an industry certification. Another brings a rigorous intellectual framework into the world beyond school, establishing community service and workplace internship as requirements for graduation. In another, teachers assess student work collaboratively against standards they have set for the school. Still another holds no formal classes, but instead builds its curriculum one student at a time, guiding students as they pursue their interests in the world beyond school. Another has embraced computer-assisted instruction to give students a foundation of basic skills as they engage in project-based learning and community exploration.

These cases are about schools that have developed new designs for learning to meet student and community needs. The effort at one school started years ago when a new principal realized what had to be a first priority: "Our kids were

coming to school hungry." In the end, what emerges in the aggregate work of these schools is a vision of the new urban high school as a place which immerses itself in the study of community resources and needs; which invites students to enter the community of working adults; and which blurs the distinction between "occupational" and "college prep" programs, recognizing that such programmatic segregation discriminates against the urban poor.

Design Principles

The emerging NUHS vision may be summarized in the design principles below.

1. Personalization.
Create settings where teachers and students can know each other well.
NUHS sites are small schools, or large schools that have broken up into autonomous smaller units. The smaller scale makes it easier to foster student engagement by building a sense of community and by tapping into student experience and interests.

2. Adult World Immersion.
Situate students directly in the world beyond school.
A common theme links the work of our sites: the notion that high schools should make the adult world of work and learning apparent and accessible to students. This principle calls upon teachers to guide learning in places other than classrooms, through job shadows, internships, community service, school-based enterprises, and other contexts in the world beyond school.

3. Contexts for Reflection.
Provide integrated, reflective contexts for students.
It is not enough to place students in the world beyond school. The new urban high school provides contexts such as advising groups, internship seminars, and integrated academic courses where students reflect on the meaning of their work outside school, linking their own experience to academic and real-world standards.

4. Intellectual Mission.
Articulate a common intellectual mission for all students.
Eliminating distinctions between "college prep" and "vocational" education, the new urban high school holds all students to high standards while offering them the support to be successful. It establishes an intellectual framework that serves as the basis for assessment. It sets high standards for student work, looks at that work closely and seriously, and negotiates new assessments and new pathways for entry into post-secondary education.

5. Community Partnership.
Work closely with family and community.
The new urban high school involves families directly in their children's education. It embeds itself deeply in the community by listening and responding to community needs.

Design Principles for the New Urban High School

1. **Personalization**
   Create settings where teachers and students can know each other well.
2. **Adult World Immersion**
   Situate students directly in the world beyond school.
3. **Contexts for Reflection**
   Provide integrated, reflective contexts for students.
4. **Intellectual Mission**
   Articulate a common intellectual mission for all students.
5. **Community Partnership**
   Work closely with family and community.
6. **Teacher as Designer**
   Conceive of the teacher as designer, inquirer, and clinician.

6. Teacher as Designer.
Conceive of the teacher as designer, inquirer, and clinician.
If a school is to be a good learning place for students, it must be a rewarding workplace for teachers. The new urban high school deploys teachers in design teams that cut across academic disciplines and meet regularly during the school day. It allows flexible schedules that accommodate team teaching, common planning time, project-based learning, work-based learning, and other regular interaction with the outside world.

Taken together, these principles have implications for the allocation of adult resources, for the organization of adult and student time, and for curriculum and pedagogy. They envision the new urban high school as a high performance workplace that situates student in the adult world and offers them the personal and intellectual support to use their minds well.

Stories of Change

If the NUHS sites evoke a vision, they also carry a cautionary message. High schools are not closed systems; their work and their structure are influenced profoundly by post-secondary entrance requirements, teacher training practices, district policies and assessment practices, and community pressures. Each NUHS site has encountered deeply embedded influences that impede school reform; each case study highlights particular issues and struggles as they play out in the local context.

Like all schools, the NUHS sites are still evolving. All continue to confront critical issues as they develop new designs for adult world involvement, school assessment, student assessment, standards, and staff development. Each of them recognizes the critical importance of building solid adult-adolescent relationships. Each is unlike, yet very like other schools, developing local solutions to common issues. Their collected stories offer a mosaic of critical lessons about school change.

Practitioner Materials

The second part of this volume consists of materials for practitioners, derived from our work with the NUHS sites. These materials respond to both a theoretical and a practical context. Theoretically, they follow from the NUHS design principles: personalization, adult world immersion, contexts for reflection, intellectual mission, community partnership, and teacher as designer. Practically, they come directly from the field with some adaptation for general use.

These practitioner materials are organized in three sections. The first, Connecting Activities, offers routines and activities for supporting community-based learning through student observation and reflection, autobiography, project-based learning, and dealing with workplace issues. The second section, Work-Based Learning and Mentoring, focuses on adults in the workplace: what makes a good mentor, how to build a mentoring program, how to support mentors and supervisors as they in turn support work-based learning. The third section, Activities for Educators, focuses on educators as learners and designers. It contains a set of activities and planning tools, ending with a guide to integrated

curriculum planning. The assumption here is that the best professional development occurs as teachers work together in design teams to create programs that meet local needs.

In all our materials we have tried to keep our attention fixed on a three-way axis, linking intellectual rigor, real-world standards, and student engagement. The materials place the learner at the center, emphasizing student ownership, reflection, and action. They are tools for helping adults and students manage the unpredictable flow of experience in work and community-service sites.

In presenting these case studies and materials, we know that we cannot hope to do justice to the complex and profound work of the NUHS sites. A full appreciation of that work can only be achieved by seeing these schools in action and viewing the work of students and staff. Nevertheless, our hope is that these stories and materials will help practitioners, not only to engage in rich learning activities with students, but also to work toward a vision of a high school where all students are offered immediate access to the adult world of work and learning. ■

CASE STUDIES

The New Urban High School

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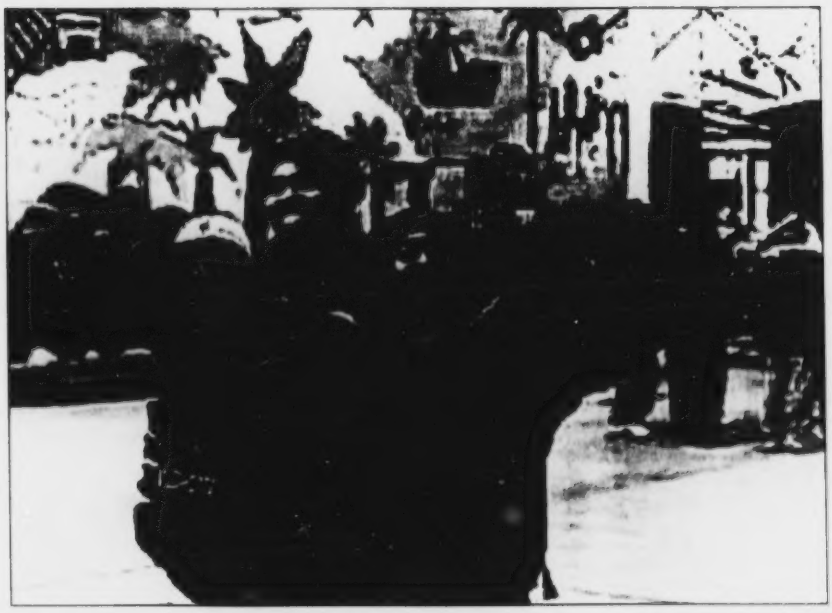


Central Park East Secondary School

C P E S S

AT A GLANCE

Central Park East Secondary School
1573 Madison Avenue
New York, NY 10029
Tel: (212) 427-6230
Fax: (212) 876-3494

David Smith, Director

A Small Neighborhood School, Grades 7-12

Opened: September 1985

Students: 460 (45% Hispanic, 45% African American)

Teachers: 38 (40% of color)

Teacher Load: 42 students or fewer per week

Advisor Load: 15 students or fewer

Admissions: No requirements

Web site: www.csd4.k12.ny.us/WWWPages/cpess/index.html

Central Park East Secondary School

Habits of Mind in the World of Work

RAMON,* A SENIOR at Central Park East Secondary School (CPESS), pushes his way through the doors of the school into the crisp December morning. Covering the three blocks to Mt. Sinai Hospital in minutes, Ramon greets the hospital security guard, heads through the doors marked "employees only," and makes his way to a small auditorium where the weekly CPESS/Mt. Sinai Health Careers Internship Seminar takes place.

In the auditorium, Mardi Tumanaro, a science teacher and one of the founding faculty of CPESS, is chatting casually with a cluster of 11 other CPESS students. Clipboard in hand, she calls the group to order and asks for a volunteer to give an update on recent internship work. She reminds students that this is a good time to start practicing for their formal presentations in January.

Ramon steps to the podium and begins. For the past several weeks he has been analyzing data on patient demographics and referrals from two local health centers. After reading a huge stack of reports, Ramon developed "about 19 graphs in 40 minutes," comparing patient referrals with the actual incidence of doctor visits. He found that only 45 percent of referrals resulted in actual visits. Mardi asks what his research has taught him about the delivery of medical care. Ramon replies that the hospital's system for tracking returns on referrals is not as efficient as one might think. Some of the data appears to be lost, manipulated, or erroneous. When people do not follow through with referrals, Ramon says, they endanger their own health as well as the health of others — a clear public health risk.

Ramon has designed a new database to simplify the tracking of referral data. He hopes the results will influence strategies for improving the rate of return on referrals. At the same time, Ramon has been developing a more general research paper about ways to improve the response of low-income populations to referrals from health centers. The Mt. Sinai Steering Committee will use Ramon's report to help evaluate its referral network.

After further questions from Mardi and the students about how he will organize his findings and what interests him in his work ("being able to have an effect on the quality of people's lives in my community"), Ramon steps down. The students who follow bring up a range of concerns and issues in their work: boredom, problems with supervisors, technical challenges, the possibility of work-related injury. Mardi and the students offer each other support and advice on ways to address these concerns.

The reflection does not end here. Back at school, Ramon and his peers consult with their advisors as they prepare their internship portfolios. They also take

*The names of students have been changed in all case studies.

"My internship is not about working in the hospital and thinking in the school. The work and thinking go on simultaneously all the time."

— Ramon, CPESS senior

a related science course that Mardi offers within the CPESS Senior Institute. As Ramon puts it, "My internship is not about working in the hospital and thinking in the school. The work and thinking go on simultaneously all the time." Nor does this internship in a hospital limit his career options: having started out with an interest in finance, Ramon is now interested in the relation between data collection and public policy.

Intellectual Rigor in and Beyond School

A small school in East Harlem known for intellectual rigor and a sense of community, Central Park East Secondary School rarely receives notice for its work- and community-based learning programs. Yet, every CPESS student spends a half day per week in community service in grades eight through ten and completes an internship of at least 100 hours during the junior or senior year as a graduation requirement. Through its community-service and internship programs, CPESS offers living proof that the adult world of work can serve as a rich learning context for all students, preparing young people for work, citizenship, and further study.

CPESS faculty don't think of their internships as a "school-to-work" program. Instead, they apply a framework that permeates the work and communication of every student and staff member: the five CPESS "habits of mind." The founding faculty developed habits of mind as a way to make connections across academic disciplines and teach students to use their minds well. Now, 13 years later, the habits of mind remain central to the CPESS experience. To graduate, students must demonstrate competency and progress in all five habits through portfolio exhibitions. In effect, CPESS students learn to use the habits as a set of lenses through which to view the world. As they apply habits of mind to both the school and the workplace, they come to understand and articulate the connections between their experiences at school, at home, and at work.

Community Service and Internships

CPESS initiated community service for a practical purpose: to free up common planning and meeting time for teachers. Sending all eighth through tenth graders out to community-service placements for a half day each week, they reasoned, would open up several hours for teacher planning, while giving students something worthwhile to do. What the staff did not anticipate was just how powerful these experiences would prove for engaging and motivating students. Site supervisors from local non-profit settings such as schools, museums, day care centers, nursing homes, and government offices, began sending in glowing evaluations of previously unengaged students, and many students began earning grades of "distinguished" and showing new confidence in themselves.

One such student was Bruce. Throughout the seventh and eighth grades, Bruce seemed disconnected and missed school frequently. He experienced little success at his community-service placement, and his teachers began to worry that he would not be able to complete his graduation portfolios.

During Bruce's ninth-grade year, Harlem Hospital contacted CPESS about a new "Urban Bike Corps" initiative. Students would learn bike mechanics, make

Habits of Mind at CPESS

- **Connections**
  How is it connected to other things?
- **Perspective**
  What is the viewpoint?
- **Evidence**
  How do we know what we know?
- **Speculation**
  How else may it be considered?
- **Significance**
  What difference does it make?

presentations on bike safety to classes of elementary and middle school students, receive support for their studies, and perhaps travel beyond the metropolitan area. Bruce chose the Corps as his placement.

Over the next two years, Bruce worked with the Corps, growing more and more passionate about bikes and developing strong relationships with the Bike Corps staff. He led workshops and bike trips for younger students and was chosen to participate in a cultural exchange with a group of Ghanaian students. Having earned his travel expenses through various fundraisers, Bruce traveled to Ghana as part of a student team, which donated bicycles to Ghanaian students. Back at school, Bruce's academic work began to improve dramatically. Now a senior, he expects to graduate in June 1998. He continues to communicate with his Ghanaian friends via the Internet.

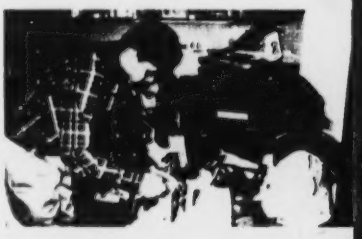
Bruce's story is not unique. Many students at CPESS have gained confidence and purpose as they achieved success beyond the school walls. Seeing this, the faculty integrated work-based learning more fully into the curriculum in 1987, adding a 100-hour internship requirement for the Senior Institute (grade 11 to graduation). Internship placements include such organizations as Bantam Doubleday, the Office of the Public Advocate, Harlem Textile Works, the NYC Construction Authority, the Children's Museum of Manhattan, Solomon Brothers, The Gap, Marvel Comics, Radio Station WBAI, the 92nd Street "Y," and many others.

As with community service, students in internships have many occasions to reflect on their learning via journal keeping, advisory or seminar group discussions, and portfolio preparation. In fact, students may choose community service and internships as one of seven "major" portfolios for graduation — and many do so.

CPESS has worked the internship and community-service programs into already existing structures. For example, the CPESS flexible block schedule allows time for teachers to visit students at worksites, while advisory groups offer an opportunity for students to reflect on their site experiences and develop their internship portfolios.

CPESS teachers and students see community service and internships as central to the identity, culture, and intellectual mission of the school. Students demonstrate habits of mind as they consider the intricacies of the adult world. Advisors refer to habits of mind in developing reflective activities, and site supervisors use habits of mind to better understand their interns' learning goals and give students helpful feedback.

CPESS teachers and students see community service and internships as central to the identity, culture, and intellectual mission of the school.



The Office

It is 8:00 a.m. Program Director Anne Purdy and Internship Coordinator Denise Reagans make last minute changes to sign-in sheets arranged along four rows of tables. This is the calm before the storm. Over the next half hour, 80 tenth graders stream into the office, chatting and joking. The office feels like a cross between an employee lounge, a train station, and a classroom. Students quickly "punch in" and head out to elementary school classrooms, senior service agencies, museums, and other community-service sites throughout the city. Other students approach Anne and Denise with questions and concerns about their work experiences. As the sign-in ritual draws to a close,

Maintaining a comprehensive and structured work-based learning program requires patience, time, and a staff able and willing to offer support.

The CPESS Structure

Key Components: Division I (Grades 7–8) and Division II (Grades 9–10)

- Common core curriculum organized around math/science and humanities. Learning centers on themes such as "Peopling of America" for humanities; and "Vision and Light" for math/science
- Communication skills (reading, writing, public speaking, and critical listening) taught in all subject areas by all staff
- All students in grades 8–10 spend a half day per week in community-service placements
- Advisory groups meet 2½ hours per week

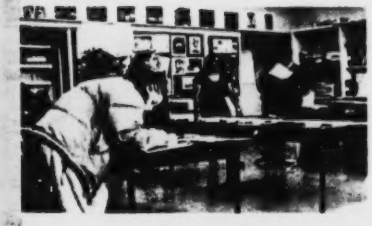
Sample Daily Schedule: Divisions I and II

8:00 - 9:00 a.m.	Spanish
9:00 - 1:00 p.m.	Two-hour blocks of humanities and math/science
1:00 - 2:00 p.m.	Thirty minutes of educational options and thirty minutes of lunch
2:00 - 3:00 p.m.	One hour of advisory
3:00 - 5:00 p.m.	Extended day options

All students in grades 8–10 spend a half day per week in community-service placements.

Key Components: Senior Institute (Grade 11–Graduation)

- Entry into Senior Institute based on:
  - satisfactory completion of Division II academic requirements
  - satisfactory completion of community-service requirements
  - an academic review conducted by the student, family, and Division II advisor
- Curriculum designed by students, families, and advisors around a post-graduation plan, incorporating personal needs and career interests
- Academic courses taken at CPESS and at local colleges
- Internships of at least 100 hours
- Advisory groups meet 3½ hours per week



a handful remain seated on the couches that line the room, awaiting Anne and Denise's counsel.

Today will be Brianna's first day at the NYC Public Advocates Office in downtown Manhattan. Stealing glances at the door, she awaits the arrival of her travel partner Tamieka, a veteran of the Public Advocate's Office who has agreed to show Brianna the ropes. Denise calls Tamieka's home, but no one answers. Brianna will have to go alone. Handing Brianna a subway token, Denise spells out the directions to the Advocate's Office. Meanwhile, Tamieka's name goes on a list of missing students. Later in the day, Anne will follow up to find out why she is absent.

For now, Anne talks with another student, Eva. "I don't want to go to the hospital," Eva says. She originally chose a placement at North General Hospital because she wanted to work in a medical office. As it turns out, she is working in the mail room. "Have you spoken to your supervisor yet?" "No," replies Eva. "I just don't want to go anymore." Anne points out that the only way to find out if she can work on more health-related tasks is to ask. Eva remains unconvinced. If that is not possible, continues Anne, then Eva should find out what other work she might do. Only then can she change her placement — that is, if she still wants to. Meanwhile, it is getting late.

Anne suggests that before leaving, Eva should call the hospital to say she's on her way.

Maintaining a comprehensive and structured work-based learning program requires patience, time, and a staff able and willing to offer support. In addition to Anne and Denise's full-time positions — Anne is technically a "teacher" and Denise a "paraprofessional" — the Community Service and Internship Program Office at CPESS employs one full-time administrative assistant, and one grant-funded part-time assistant. Although the program has been a priority at CPESS since the beginning, money is scarce. Anne spends many hours after school writing grant proposals and reports. Her fundraising efforts have met with considerable success, including grants from Learn and Serve America, the Kauffman Foundation, and the Annenberg Foundation. Parents, too, are very supportive of the work-based learning orientation of the school. In fact, many parents send their children there for that reason and assist the staff in arranging placements.

Supporting Students: Advisory

The Community Service and Internship Program Office is not the only way CPESS keeps in touch with student needs. CPESS's commitment to small classes and low student/teacher ratio, for one, allows teachers to get to know their students well. There are never more than 20 students per class, and teachers are never responsible for more than 40–42 students per semester. This is made possible through block scheduling and the efficient allocation of staff. Because there are no guidance counselors, department heads, or deans, the school can hire teachers with the funds that other schools might spend on those positions. Moreover, teachers can team together to offer interdisciplinary classes, group presentations, and small seminars.

The major means of student support is the advisory system. Every student at CPESS takes part in an advisory group of one advisor and no more than 15 students. The group meets three or four times per week for quiet reading, writing, study, and discussions of social and ethical issues. More important, the advisory group helps students make decisions, plan their programs, reflect on their learning, build interpersonal skills, prepare for the SAT, and apply to colleges.

Advisors serve as the school's primary liaisons with families, meeting regularly with students and their families to review work, set goals, and determine how to provide the best possible learning experience for each student. The advisor is in contact with the parent at least once a month, whether things are going well or poorly with the student. Teacher-parent-student conferences take place each semester in the daytime or evening, whenever is best for the parent. There is 100 percent attendance for these conferences. Overall, according to parent liaison Sheila Lambright, CPESS places great emphasis on creating a feeling of "family" at the school. Many of the teachers have, or have had, their own children there, and everybody knows everybody else personally.

Assessing the Learning

CPESS assesses student learning by means of portfolio and exhibition. To earn their diploma, students must present collections of work (portfolios) that

Support for Learning in the Community

CPESS supports community-based learning in several ways:

- Community service and workplace internships are required for graduation.
- Students prepare portfolios about their experiences in community service and internships.
- The block schedule allows time for internships — and teacher visits.
- Advisory provides a place to discuss work experience and prepare portfolios.
- A community-service/internship office, directed by a teacher, provides administrative, academic, and personal support.
- Where possible, a reflective seminar accompanies the internship.
- CPESS provides training and materials for site supervisors and mentors.

Graduation at CPESS

The Graduation Committee must confirm that the student has

- completed an appropriate program of courses, seminars, independent study, and internships that meets the needs of student's post-graduation plan;
- passed the necessary NY State RCT's or their equivalent, and demonstrated basic college entry-level skill in reading, writing, and math;
- satisfactorily presented and defended at least 7 "major" portfolio areas;
- demonstrated mastery of the 5 habits of mind in all 14 portfolio areas (7 majors and 7 minors);
- satisfactorily completed a final Senior Project.

The 14 Portfolio Areas

1. Post-Graduation Plan*
2. Science/Technology*
3. Mathematics*
4. History and Social Studies*
5. Literature*
6. Autobiography
7. School and Community Service and Internship
8. Ethics and Social Issues
9. Fine Arts/Aesthetics
10. Practical skills
11. Media
12. Geography
13. Language Other than English/Dual Language Proficiency
14. Physical Challenge

* Required as major portfolios for all students. Students complete all 14, present 7 as major portfolios.

demonstrate competence in 14 specified areas. Students present their completed portfolios to a Graduation Committee composed of the advisor, a second faculty member, an adult chosen by the student, and a younger student. The committee judges the student's readiness to graduate, holding all work to high standards related to the CPESS habits of mind.

CPESS students emphasize that creating 14 portfolios is hard work. In any given year as many as ten students may not complete their portfolios, thereby returning to CPESS for an additional year of study. There is no stigma attached to that additional year; the clear message is that CPESS holds students to high standards and is determined to make sure that every graduate is prepared for the world beyond high school.

Life After High School

CPESS students enter post-secondary programs at the astoundingly high rate of 90 percent. And of those who enter, over 90 percent graduate with two- or four-year degrees. According to CPESS students and teachers, several key characteristics of the school foster the academic engagement and success of CPESS students. They include: the intellectual focus provided by the five habits of mind; the personalization brought about through small class size, the school's advisory system, and parental involvement; and community connection achieved through service- and work-based learning.

Moreover, the school maintains a "culture of college" in which it is assumed that all students will go on to post-secondary study. There are no programs or students designated as "non-college bound." Starting in Division I, advisory groups take at least one trip each year to visit college campuses. Senior Institute students are encouraged to take one or more college courses at Eugene Lang or the Borough of Manhattan Community College, each of which reserves slots for CPESS students. Finally, throughout their high school careers, CPESS students are required to create a "Post-Graduation Plan," which details both what they would like to do when they graduate and how they plan to make it happen. Students receive extensive feedback and assistance in the development and realization of these plans from their advisors, particularly during the school's Senior Institute.

CPESS advisors help their students begin planning by asking them why they want to earn a high school diploma. Reflecting on broader purposes helps students to think about specifics, such as the kinds of grades and courses they will need; how they plan to finance their educational and/or career goals; how they will investigate colleges or other post-secondary training centers; and where they plan to live after graduating from CPESS.

By providing the time and the advisory structure for such a detailed and realistic exploration of pre- and post-graduate life, CPESS has been able to encourage most students to seek and achieve post-secondary educational success. The Post-Graduation Plan is the first and the last requirement assessed by the student's Graduation Committee.

Post-Secondary Links

Another CPESS strategy for post-secondary success has been to establish articulation agreements and/or ongoing relationships with a number of colleges, including those in the CUNY and SUNY systems (City/State Universities of New York), Syracuse University, Hampshire College, Antioch College, Oberlin College, Moorehouse College, and Brown University. Each of these schools has accepted significant numbers of CPESS students over the years. CPESS teachers have made it a point to familiarize admissions officers with the school and its approach to learning — all in the process of advocating for their students. Now, having had positive experiences with CPESS graduates in the past, these schools readily accept new CPESS applicants.

Senior Institute teacher Shirley Hawkinson believes that CPESS students succeed in college because they have developed independent learning skills. Hawkinson observes that it often takes CPESS graduates about one and a half years to adjust fully to college because they are not accustomed to multiple-choice exams or lectures. But because they are pro-active learners who know how to ask for help and support, they ultimately do well.

Looking Ahead

During the past five years, CPESS has been subject to district-wide policies and budget cuts that challenge the school to "do more with less." The school has lost five staff positions, including an internship seminar teaching position and an administrative assistant to the director. Such losses make it difficult to expand and develop CPESS's work-based learning approach. For example, the school cannot afford to fund more teachers to work part-time as internship seminar facilitators. There is a chance, however, that CPESS will regain three of the five lost positions, which would allow the school to re-establish a seminar program for students doing individualized internships.

As is true for all of the NUHS sites, mandatory standardized tests pose a potential threat to CPESS. The State of New York's latest plan to "guarantee" school success will require all high school graduates to pass high stakes Regents Exams. This system, of course, puts pressure on schools to alter their curricula and programming and teach to the test. The irony is that CPESS's existing program already works. "After all," says CPESS director David Smith, "by instituting the system of Regents Exams the state is trying to ensure that more of its students graduate high school and are able to do well in college. At CPESS, we can already document that we are achieving great success along these lines."

Despite the loss of some staff, and significant changes in leadership — founding director Debbie Meier left in 1994, and co-director Paul Schwartz took a leave of absence in 1997 to become Principal-in-Residence at the U.S. Department of Education — CPESS continues to thrive as a school and an organization. Staff turnover is low. When teachers do leave, it is usually because they want to become full-time parents, or because they plan to start a new school of their own. The school's resiliency is largely due to its democratic character. Teachers have a tangible sense of ownership and readily embrace steady change and growth. According to David Smith, who has been with CPESS for over ten years, first as a teacher and now as director, "A good school is a hungry school,

Five Keys to Post-Secondary Success

If post-secondary success is a true test of school effectiveness, then CPESS is a truly effective school.

- Over 90% of CPESS students graduate from high school.
- Over 90% of CPESS graduates go on to 2- or 4-year colleges.
- Over 90% of those who enter college graduate with 2- or 4-year degrees.

The Keys

1. **Intellectual training.** CPESS habits of mind prepare students for the rigors of college study.
2. **Personal support.** The CPESS advisory program provides a context where students can
   - reflect on their lives, work, and goals;
   - visit colleges, starting in the seventh grade;
   - get help with the college application process.
3. **Adult world immersion.** Community service and work-place internships make the adult world of work and learning accessible to students.
4. **High standards for all students.** Graduation from CPESS signifies readiness for the world. Students spend an extra year at CPESS if necessary to ensure their preparedness.
5. **Post-secondary links.** Articulation agreements, personal relationships with admissions offices, and past performance build confidence in the quality of CPESS graduates. Many CPESS students demonstrate readiness by taking college courses while in high school.

Staff Development and Planning

- Planning time: 3–4 consecutive hours per week
- Staff meeting: 1½ hours per week
- Staff development and committee work: 2 hours per week

balancing dissatisfaction with not being there yet, with real assessment of and appreciation for its successes."

As part of their work with the NUHS project, CPESS staff have looked critically at their community-service placements and internships. Clearly, these programs are central to the school's philosophy of community involvement. They provide a context for *all* students to pursue their interests as well as to interact with the adult world of work and learning. Teachers say that for many students, these experiences have proven to be the most meaningful and formative of their high school career. Yet, with the exception of the Mt. Sinai Internship Seminar, CPESS does not now have a system for students to share and reflect on these experiences as a group. And because advisory groups have so many other demands to meet, CPESS is still considering new ways to honor the centrality of the students' work-based learning.

To uncover more of this rich learning from worksite experiences, CPESS is working with NUHS to develop materials that encourage students, teachers, and site supervisors to connect learning at work with the five habits of mind. These materials include connecting activities for advisors to help students reflect on their community-service experiences; community-service orientation handouts for students and site supervisors; and a packet of guidelines and connecting activities for Senior Institute internships.*

Continuity and Renewal

The staff and students at CPESS have worked hard for their successes. Yet the visitor does not get the impression that teachers are riding on their laurels. As one staff member put it, "We are always looking critically at our work and trying out new things. It takes a lot of energy, but this is a school where you don't usually see teachers getting burnt out — it's more like we get exhausted, which is a very different thing." Implicit in this statement is a key and continuing feature of the CPESS culture: even after all these years, the teachers (and students) work together to create and renew the program. It takes enormous energy to do so, but that energy is repaid in the result: a strong learning community, from which students emerge ready to succeed in the world of work, learning, and citizenship. ■

*See Practitioner Materials: Connecting Activities and Work-Based Learning & Mentoring for adapted versions of these materials.

Chicago Vocational Career Academy

C V C A

AT A GLANCE

2100 E. 87th Street
Chicago, IL 60617
Tel: (773) 535-6100
Fax: (773) 535-6633

Betty Despenza-Green, Principal

A Chicago Public High School Career Academy

Restructuring began 1991

Students: 2400 (99.5% African American)

Teachers: 144 (70% African American, 28% white)

Admissions: No requirements

Chicago Vocational Career Academy

Breaking Down the Monolith

IN THE SPRING OF 1992, Betty Despenza-Green, principal of Chicago Vocational High School, met with one of the department heads. Moving forward in her seat, the department head pulled out an old memo from the district office and said, "Dr. Green, the district requires that the department chairs hold three meetings during the year. It's spring and we haven't had one yet."

Despenza-Green replied, "I have just one question. What are the department heads going to do in these meetings?" The department chair had no ready answer. Texts had already been ordered through the academies. Curriculum was now planned by interdisciplinary teams. Department chairs had never received a stipend or a bonus. After a year of restructuring, the curricular center had shifted away from the departments and into the new academies.

To some, this is a story about structure: how Chicago Vocational (now Chicago Vocational Career Academy, or CVCA) eliminated subject-based department chairs and replaced them with academies and academy coordinators in just two years. In a broader sense, though, it is one of many stories of a school's struggle to provide students and teachers with a supportive environment for substantive change — a change that took Chicago Vocational from being a large, impersonal, traditional vocational school, to a group of small learning communities where students are challenged to use their minds well.

New Designs for Changing Times

Betty Despenza-Green had started at Chicago Vocational as a teacher in 1972. At the time, the high school was not far removed from its original role of supplying skilled workers for the nearby steel mill. The monolithic physical structure of the school mirrored that factory. But the steel mill had closed down several years earlier. The student population had changed from predominantly white to almost entirely African American. For the last few years, Chicago Vocational had continued to deliver students into jobs. Still, it became clear that those jobs would not translate into a lifetime of wider opportunities. Instead of finding secure, high-paying jobs at the mill, graduates were having to change careers, seek further education, and revamp their skills just to get by. Both employers and colleges in the area were making it clear that they sought graduates with work habits and skills that included the ability to read, write, calculate, and think at a high level. Chicago Vocational wasn't there yet.

Beginning in 1991–1992, Chicago Vocational took critical steps toward "getting there." With Despenza-Green at the helm, the school transformed its 750,000 square feet of disconnected classrooms and vocational shops into a more coherent, personalized learning environment. They did this by integrating

The CVCA Academies

- Junior Academy (Grades 9 and 10)
- School of Business and Finance
- School of Health/Human Services
- School of Manufacturing
- School of Communications
- School of Horticulture
- School of Transportation
- School of Hospitality/Food Services
- School of Construction
- School of Cosmetology

the vocational classes with English, social studies, math, and science classes and placing them under career-based academies, or mini-schools. As Despenza-Green explains, "They call our corridors 'the track' because there are literally miles of them here. Kids were having to zigzag all around the facility to get from class to class. Frankly, all those tardies were keeping us from doing our job well. From that standpoint, the academies were just common sense. The school community simply couldn't argue with that so that's where we started."

The physical reconfiguration has brought other changes beyond reducing tardiness. Teachers in each academy now work with the same students. Even though they teach different disciplines, they meet regularly to discuss these common students. Teachers and students recognize each other more readily and get to know each other beyond the classroom. Rather than complain to one another about mutual "faceless" students, teachers discuss better ways to help individual students. Parents comment that it is now easier to check on their children's progress at the school.

The transformation was not without glitches. Although few of the staffers objected to the changes, some teachers displayed unease at the shift to interdisciplinary, student-centered teaching and learning. While acknowledging the necessity of the restructuring process, many found it difficult to meet the challenge at a personal level. As one teacher put it, "Can we just slow down for a bit?"

Preparing for Change

When Carolyn enrolled at CVCA, she and her grandmother were surprised to receive a notice that they were expected to attend a kind of summer school. Her grandmother called CVCA to inquire. "There must be some mistake. Carolyn has always been an excellent student. Why does she need to go to summer school?" The school secretary replied, "No, it's not an error. We ask all new students and their parents to attend."

That summer, Carolyn and her grandmother joined the other entering families for an introduction to the CVCA approach. Coaches from the Coalition of Essential Schools (CES), which CVCA had joined in 1991, oriented them to the concepts behind an essential school. They learned how teachers act as coaches instead of lecturers, about the way the school fosters an atmosphere of respect and decency, and how students must demonstrate their knowledge and skills through exhibitions. Now a senior about to graduate from the Human Services Academy and enter university, Carolyn looks back appreciatively at that summer orientation as an experience that helped her to understand the school and the way it works.

Unbeknownst to Carolyn at the time, all new teachers at CVCA receive a similar orientation in the Coalition principles before they ever face a class at the school. All academy leaders at CVCA receive intensive leadership training as well. As Despenza-Green recalls, "When this began, I made a pact with my staff that we wouldn't expect any teacher to change until he or she received training to support those changes."

Milton Norris, coordinator of CVCA's Business Academy feels that this attention to individual needs and staff development makes a difference: "I came to teaching after many years working in the publishing business. In the business

world, when they want change they take care to retrain the workers first. It just makes sense. When I first started teaching I was shocked that many schools didn't do that for their teachers. CVCA has been more like a business that way, and it shows."

Supporting Teachers

As the school calls for a change in practice, Despenza-Green takes care not to push teachers beyond their limits. "When we implemented advisories for all our students, we understood that many teachers were still not comfortable or trained to deal with kids about emotional issues. We provided them with a curriculum to follow, so they had something to fall back on. For instance, when a student's sister died, several advisory leaders responded by encouraging their students to share their feelings through written and taped messages. But it was also important that teachers who might have been as confused as the students had a curriculum to use as a safety net."

CVCA also recognizes the delicate balance between pushing hard and pushing too far when requiring vocational and academic teachers to integrate their lessons. As the principal explains, "Many of my vocational teachers are very knowledgeable about the skills they teach and have strong relationships with their students. Many of them also don't necessarily have bachelor's degrees or even any college at all. We don't force those teachers to integrate advanced language arts or social studies concepts into their classes. We encourage the teachers who are knowledgeable to carry the ball in that area. In some cases, the reverse is true. Some of the academic teachers lacked experience in the workplace. We didn't turn around and tell our teachers that they suddenly weren't good enough."

Unlike many restructuring schools where humanities teachers take the lead, vocational teachers have often led the change efforts at CVCA. The mini-schools were built around the vocational shops, and the first chosen leaders were vocational teachers. That sense of ownership has matured to the extent that some of the mini-schools now elect their own leadership, set their own direction, and develop their own schedule. Most mini-schools are on a four block per semester schedule, but two have elected to run on a seven-period day.

As a result, the school has flourished in unexpected ways. Each academy has a school-based enterprise to help teach students all the aspects of their industry, entrepreneurial skills, and applied academics. One of the most successful of these is a school-based beauty salon that stays open after school and on Saturdays and already turns a profit. "Most of our cosmetology teachers own their own shops. They not only teach their students how to do hair, but how to apply for loans, develop a business plan, and negotiate a lease. Their experience as real entrepreneurs has made a difference for our students. When it comes to learning to write business letters or do higher level financial analysis, the other teachers in the academy drive that," remarks Despenza-Green. After a visit to CVCA, NUHS project mentor Norton Grubb praised the school's work-based learning as "genuinely impressive. Teachers and students seem to share a sense of craftsmanship and demonstrate real skill in their projects."

"In the business world, when they want change they take care to retrain the workers first. It just makes sense. CVCA has been more like a business that way, and it shows."

— Milton Norris
School of Business and Finance coordinator

Staff Development and Planning

- Weekly meetings, 1 ½ hours during school time
- Summer staff development/lab
- Winter staff development conference (full day)

The CVCA Structure

- Ten academies:
  - Junior Academy (grades 9–10)
  - Nine career academies
- Block schedule, 4 x 4 for most mini-schools
- One hundred-minute core classes
- Two mini-schools on 7-period day with blocking for technical courses

"We know that the CVCA/United Airlines program opens up many doors for students, especially as it relates to career exploration; but we now realize that it also opens up windows to the world."

— Eileen Sweeney
United Airlines
Manager of Civic Affairs

In the School of Horticulture, students carried out a professional horticultural project, the "Green Corps" program, to transform the landscape in and around the school. Students not only did the physical labor, but also helped to plan, manage, and present their project to the community. At the same time, they learned about the botanical and ecological issues embedded in the undertaking through their biology class. They also got paid for their efforts.

Student pride and engagement are clearly visible at CVCA as students, for their senior exhibitions, display models and plans for their own shops; or, amid the whir of power tools and the mist from paint compressors in the auto body shop, as they learn not only to pull dents, but also to write up estimates, understand insurance coverage, and assign tasks within a project.

Adult World Immersion

Work-based learning at CVCA takes some students beyond the school and into the community. Four times a week, 20 students from CVCA's School of Business travel 15 miles each way to O'Hare Airport to train as reservations clerks with United Airlines. Students learn alongside regular United trainees, and on the same equipment. Now in its third year of operation, the United/CVCA program does more than train future agents and other employees for the airline. In fact, many of the graduates go on to college instead. "We know that the program opens up many doors for students, especially as it relates to career exploration; but we now realize that it also opens up windows to the world," says Eileen Sweeney, United's liaison for the program. "As a result of this experience, students gain valuable knowledge and awareness of world currency, of different cultures and ethnicities, of geography . . . which then offers them insight into themselves and how they relate to the outside world."

Students who have completed the program are now eligible and equipped to work for United, if they so desire. United feels its connection to the community is stronger as a result of this partnership. As Ms. Sweeney attests, working with CVCA allows United to realize its mission so that "it's not just a set of words on some obscure wall. There's a role for the corporation in the school-to-work initiative and we feel like we are making a difference. This is not an isolated, feel-good endeavor that flows in one direction. It is a partnership between an inner-city high school and a community employer designed to help kids create options for the future."

The CVCA Family

At CVCA, students see the mini-schools as small families where no one falls through the cracks. Ninth and tenth graders meet in advisory groups for 30 minutes each day. Each mini-school employs two parents to help support teachers and students and to heighten the sense of connection to adults. A local school council — in which parents control the majority of the votes — makes major policy decisions for the school, including the selection of the principal. Parents and students play a role in all staff development, training, steering committees, and advisory boards.

This community ownership helps to supply the foundation for a supportive environment for all students. CVCA attempts to bolster the sense of community by requiring students from each academy to wear a distinct uniform.

Planning the Learning

While a supportive atmosphere is vital to the school, CVCA understands that atmosphere alone is not enough to give the students what they need. At the beginning of each year, each student meets with his or her teachers, counselor, and parent(s) to establish individual learning objectives. And just as students develop objectives, teachers must design and make public their teaching activities and goals for the week. In every classroom, the teachers post the "essential question" that will anchor the day's activities. "It's a small thing, but it helps make certain that individual learning objectives, CVCA's goals, and what gets taught all match up," says Despenza-Green.

Because students and teachers constantly re-examine objectives, students become familiar with the way CVCA's restructuring works. For instance, students know that teachers plan interdisciplinary units during their 90 minutes of Wednesday flextime, a common planning period built into CVCA's schedule. They also refer to teachers as "coaches." More important, CVCA students overwhelmingly describe themselves as college bound.

While students often plan to continue in the field they are studying at CVCA, they also explain that they are using the skill to pay for college. Although occupational majors within each mini-school such as the School of Construction's carpentry, cabinetmaking, and metal working have traditional vocational titles that suggest narrow training, the goal-setting process embedded in the individual learning objectives seems to have an altogether different effect. Fashion students and cosmetology students reveal that they plan to become lawyers. A business student explains that she plans to become a pediatrician. In some cases, the apparent dissonance between the student's personal goals and the existing occupational majors is resolved in creative ways. For instance, a fashion design student interested in medicine wound up doing her final exhibition on breast cancer. She designed outfits for individuals whose bodies had been changed by cancer. In the process, she also studied the disease, its etiology, and current treatments.

Exhibiting the Work

All CVCA students keep portfolios of their work, and all graduating seniors must present a final exhibition on a topic related to their career major. Combining their work-based and academic learning, students exhibit their work to a panel of teachers, adults from the community, and an adult from their career field. While 350 exhibitions might seem a daunting task for any school to administer, CVCA's academy structure makes it manageable. Each mini-school schedules and assesses the roughly 50 exhibitions for its seniors. In the School of Communications, a student might explore the style of a musician in performance, then explain that musical style, its history, and its cultural context. A School of Manufacturing student might display items that he or she designed

Breaking Down the Monolith
Five Components of Reform at CVCA

1. **Personalize.** Restructure 1 large school into 8 mini-schools.
   - counselors in academies, not administration building
2. **Integrate.** Redesign the curriculum to integrate academic and vocational learning.
   - teachers in interdisciplinary teams, not departments
3. **Collaborate.** Establish school/business/community partnerships.
4. **Immerse in the world.** Develop tech prep, job training, internships, and apprentice programs.
5. **Support.** Train teachers for change.
   - summer institutes
   - leadership training

A "kids first" policy and a "get it done" attitude have made change at CVCA possible.

while providing a detailed explanation of the scientific and technical processes behind them.

Getting it Done

Early in 1998, a CVCA staff member discovered a bathroom tucked away in the far corners of the school building. Complete with marble sink and shower, the bathroom was a vestige from the building's earlier incarnation as a naval officers' quarters during World War II. Like this bathroom, many of the changes at CVCA are not readily visible. Early in the change process, counselors physically moved out of the administration office and into individual academies. As a result, they plan with teachers from their academy, visit classes, and see students regularly whether those students have troubles or not. Through this surprisingly simple step, CVCA has managed to minimize the scheduling mix-ups that can accompany a shift to academies.

A "kids first" policy and a "get it done" attitude have made changes of this kind possible. Betty Despenza-Green recalls, "When CVCA first wanted to restructure, a lot of people compared it to an old battleship and encouraged us to take it just a few students at a time. In fact, the school only received enough money to implement restructuring for 150 students. We took the same money and made it part of a whole-school plan. We knew that we couldn't change just a piece at a time. If it was good for some of our students, it had to be good for all of CVCA's students."

This unwillingness to accept "no" for an answer when it comes to students has been the school's greatest asset. In 1991, when CVCA was denied $150,000 to begin a critical first training for its teachers, Despenza-Green vowed to take out a personal bank loan to make sure it happened. Ultimately, the district provided the money.

Looking Ahead

CVCA was recently designated as a Career Academy High School by the district. As such, it must conform with the district model. This has been a fairly easy transition, except that the ninth-grade community and career exploratory program must now be worked into required social studies and computer/technology classes. Nevertheless, some problematic issues remain.

Testing

The Career Academy designation comes as part of the Chicago High School Redesign Plan that imposes a number of standardized tests, required classes, and other conditions on schools. Teachers throughout the city are feeling pressure to teach to the "IGAP," a standardized test that emphasizes basic skills over qualities that CVCA also values such as work skills, an understanding of the community, and familiarity with the adult world.

The district's attempt to promote reform through standardized tests has posed difficult issues for a school like CVCA with its strong sense of community ownership. CVCA's test scores remain low, though higher than many similar Chicago high schools. Still, students and teachers feel strongly that they have

made clear progress toward raising academic standards and expectations on their own. College entry data support this view: 65 percent of graduates go on to post-secondary education; 60 percent of those go to a four-year college.

Occupational Specificity

With the creation of mini-schools that center around vocational clusters, the vocational classes have been linked to academic classes, and great advances have been made to achieve true academic and vocational integration. However, CVCA's career majors present a continuing issue. Although each academy represents a broad industry theme, students must select a specific career major in a narrow occupational area. For example, if a student in the School of Transportation majors in auto body and fender, great care must be taken to ensure that the student learns about the *industry* of transportation as a whole. This model of selecting narrow majors within the broadly defined industry can have the effect of providing students with a traditional vocational curriculum. The principal and her staff are considering how the school can best provide students with real and tangible skills, while simultaneously providing the students with broad knowledge and understanding of their industry.

Pedagogy

CVCA is interested in improving academic achievement through improved pedagogy. To achieve this goal, the principal has proposed a program of intensive training for teachers in the teaching of reading and writing; interdisciplinary planning; rubric development; integration of technology; and learning abilities and styles.

Meanwhile, Betty Despenza-Green jogs the miles of corridors at CVCA every morning. Each time she makes the run, the school gets just a little smaller and the students inside get a little bigger. The students understand that the essence of the school is about the relationships that have developed out of the intimacy allowed by the academy model. Derek, a senior in the School of Business and Finance, sums up the CVCA experience this way, "We have teachers who care . . . who take the time to help us during their lunch, before school, after school, whatever it takes to help me reach my full potential. And they help me in many ways, like with a paper, a research question, or a social or family problem . . . I've never been turned down or felt like I wasn't taken seriously. And that's important to me." ■

Hoover High School

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HOOVER

AT A GLANCE

Hoover High School
4474 El Cajon Boulevard
San Diego, CA 92115
Tel: (619) 283-6281
Fax: (619) 280-5837

Doris Alvarez, Principal

A Comprehensive High School

Opened: 1930. Restructuring began 1991.

Students: 1849 (51% Hispanic, 21% African American, 20% Indochinese)

Teachers: 97 (80% white, 8% Hispanic, 5% African American)

Admissions: No requirements

Web site: hoover.sdcs.k12.ca.us/

Hoover High School

Real Standards for Real Students

LUIS, A HOOVER HIGH SCHOOL SENIOR, stands before a panel of three adults: a teacher, a local business executive, and a representative from a local social service agency. Wearing a blue suit, a tie, and a pressed white shirt, Luis looks much like a young graduate on his first job interview. On the far wall, a small poster displays the six graduation standards known as Hoover Learner Outcomes (HLO's). The adults peer over a set descriptive rubrics for each HLO. Luis nervously taps a red file folder, awaiting his cue. Over the next 45 minutes he will present a portfolio of work samples from his four years at Hoover.

Luis first presents his design for an Internet web page that maps San Diego's water supply. He goes on to exhibit a collection of work that includes videos from an astronomy class, delivered at the school via electronic distance learning, and the rough and final drafts of an English paper on Kafka's *The Trial*. Each time he presents a work sample, Luis explains how it connects to the Hoover Learner Outcomes. As he does this, he alludes to the support his teachers, his family, and a mentor from a senior year internship have given him over the years. This support, along with the continual process of reflection embedded in creating portfolios, has helped Luis shape his plans to attend the University of California at Santa Cruz and pursue a career in bio-science.

After the exhibition the three adults confer and agree: Luis has clearly and sufficiently demonstrated progress along each of the six HLO's, and thus has fulfilled his last major graduation requirement. One panelist, a stockbroker from a nationally known firm, invites Luis to apply for a summer position with his company. "We want to recruit you right now," he beams.

Luis and his panel are well aware that they have gathered to determine whether his work meets Hoover's standards for graduation. What may not be so obvious, however, is that by participating in an exhibition, they are also contributing to a continual effort to define standards for the whole school. As younger students and their teachers see the work of the seniors, for example, they begin to understand why they are keeping portfolios in the ninth and tenth grade.

At Hoover High School, the guiding principle for change is simple: the progress of any school is best measured through the constant examination of the actual work that all its students do. For over seven years, Hoover has made this premise the foundation of its restructuring efforts. The effort — though complex and often frustrating — has been worth it. Hoover remains one of the few large comprehensive high schools in the country that has managed to sustain wide-scale, whole-school reform. Although the process is not complete, the school's reform efforts have markedly affected the way teachers see their roles and students see their learning. "This school almost always makes

The Six Hoover Learner Outcomes (HLO's)

What all students should know and be able to do upon graduation:

1. Demonstrate habits of inquiry
2. Experience high technology
3. Collect, analyze, and organize resources and information
4. Communicate ideas and information
5. Work effectively with others
6. Organize personal resources, plan goals for the future, and show a commitment to lifelong learning

At Hoover High School, the guiding principle for change is simple: the progress of any school is best measured through the constant examination of the actual work that all its students do.

it clear why we're here and how it connects to where we're going," asserts one senior.

At any given time, Hoover students can quickly and easily relate a particular classroom activity to an HLO. They consistently identify portfolios and exhibitions as the number one reason Hoover stands out as different and, in their view better than other high schools. "We work harder here, get challenged to do more, and we like it," explains a junior who transferred from another high school where she had struggled. And in a statement from one nationally known school reformer: "The most remarkable thing about this school is that the students understand the significance of the reforms here better than some of the teachers."

Gradually, Hoover's exhibitions and portfolios have become the standard, not just for students, but for the teachers as well. Hoover staff meet regularly to share samples of student work as a way to improve their own teaching. In essence, Hoover has insisted on defining standards by examining and discussing student work rather than relying solely on the results of standardized tests.

Coalitions and Strands

In large comprehensive schools, students often remain anonymous to each other and to many teachers. And in some schools, teachers do not even recognize one another. A learning environment that supports all students as individuals and that effectively prepares them for higher education and careers does not naturally evolve from a structure of this kind. For this reason, Principal Doris Alvarez led a whole-school movement to restructure Hoover High into smaller, more personalized units. In 1988, a team of administrators, staff, parents, and community partners, known as "Hoover 2000," designed a year-by-year plan to move Hoover towards curriculum integration, student exhibitions, and smaller schools within the school.

The restructuring began in earnest in 1991 with the formation of a Ninth-Grade Coalition, wherein small teams of teachers teach the same students and work together to plan interdisciplinary projects and common activities. These smaller team settings allow teachers to discuss the needs and talents of their students, and to know them well.

In the second year of restructuring, Hoover added a Tenth-Grade Coalition, where students become more accustomed to producing exhibitions and learning in smaller communities. Hoover started two strands of what is now the Senior Institute (grades 11 and 12) in 1993: the School of Health & Human Services and the School of Business & Communication. A third strand, the School of Design & Engineering, began in 1994.

A welcome result of these smaller learning communities is that shared classes and activities engender friendships across neighborhood and cultural lines. "We just wind up working together so much, you really get to know the people in your strand," says an eleventh grader. "I'm sure I never would have talked to a lot of my friends if we had been at some other school."

During this time, Hoover has virtually eliminated tracking, thereby sending a clear message that the school respects and cares about all students. Overall, Hoover has committed to setting high standards for all students — not just for the "brightest," most motivated students — but for students that in most schools

The Hoover Structure

Ninth- and Tenth-Grade Coalitions

- Theme-based humanities, math and science

Senior Institute Career Strands (Grades 11 and 12)

1. School of Business & Communication
2. School of Health & Human Services
3. School of Design & Engineering

- Theme-based core curriculum
- Vocational-academic integration

Schedule for Whole School

- Six-period day with flexible blocking

The Hoover High School Reform Journey, Step-by-Step

1987
- S.E.E.K. (Saturday Educational Enrichment Keys)
- Hoover Alumni Foundation
- Personalized Professional Growth Seminars (6-week mini-sabbaticals)

1988
- Onsite Health and Social Services Center approved by the Board of Education
- Hoover 2000 Committee: Think Tank

1989
- Hoover adopts Coalition of Essential Schools Principles

1990
- Planning for 9th-Grade Coalition (curriculum integration, student exhibition)

1991
- Health and Social Services Center opens
- Ninth-Grade Coalition begins pilot
- Planning for 10th-Grade Coalition

1992
- California S.B. 1274 Restructuring Grant
- Ninth-Grade Coalition pilots Exit Portfolio, conducts standardized exhibitions
- Tenth-Grade Coalition begins pilot
- Planning for Senior Institute career strands: School of Health & Human Services, and School of Business & Communication

1993
- Senior Institute career strands begin pilot
- Tenth-Grade Coalition conducts two standardized exhibitions
- Tenth-Grade Coalition pilots exit portfolio
- Planning for third Senior Institute strand: School of Design & Engineering

1994
- Senior Institute pilots School of Design & Engineering
- School-wide exhibitions in 9th- and 10th-Grade and Second Language Coalitions
- Hoover Learner Outcomes developed
- Transitions Project begins

1995
- Exhibitions in all coalitions and Senior Institute strands
- Exit portfolio required school wide

1996
- Alternative transcript candidates apply to University of California and California State schools
- Portfolio-focused summer school classes, 9th & 10th grades

1997
- Portfolio report cards go home to all parents
- Senior project for all, Health & Human Services strand
- Job shadows for 50% of juniors
- Senior internships piloted

would fall through the cracks. Staff follow through on this commitment by inviting adults from the community to see exhibitions by every senior in the school. And though these presentations may not always inspire a job offer, as in Luis's case, they do communicate the uniqueness and talents of each student.

Janice, for example, was a 19-year-old student who had dropped out of school for a semester and had a spotty academic record. Janice re-entered school through Hoover's Pathways — an alternative program for students who require flexible schedules that accommodate work or other life obligations. While her letter grades portrayed her as a poor student, her exhibition told another story, proving that she is a thoughtful writer and a talented artist, skilled enough to tutor fellow students in geometry and algebra.

"This school almost always makes it clear why we're here and how it connects to where we're going."

— Hoover senior

Meeting Student Needs

Hoover High senior Patricia is unprepared for her exhibition and it shows. Nevertheless, Patricia's panel chooses to listen and get to know her as an individual. Patricia reveals that throughout high school she has been working almost 30 hours a week at an outside job, plus several hours looking after her siblings at home. Patricia does all this work to help support her parents, whose limited English keeps them from finding higher paying jobs. Now a serious illness has made it impossible for her mother to work at all. Patricia's exhibition panelists discuss her academic skills and progress in light of these issues. They keep coming back to the young woman's words: "I think my program here has helped me see that I need to keep working on my academic skills to do better. I can't keep working minimum wage jobs. That's why I'm planning to go to junior college to qualify as a medical technician." Convinced of Patricia's motivation and readiness to enter the adult world, the panel passes her.

At Hoover, Patricia's story of struggle is only one of hundreds. More than two-thirds of Hoover students speak a language other than English at home. A narrow majority of those speak Spanish. Many come from Mexico, just a few miles south of the school. Almost as many come from Central and South America. Large numbers of students come from Southeast Asia, the Pacific Islands, and East Africa.

Almost all Hoover students are poor, with more than 90 percent qualifying for free or reduced lunch. Many have directly experienced or live with family members who have survived civil war, famine, genocide, and violent crime. Often these catastrophes still resonate in students' lives. No norm-referenced standards can provide the support many of these students need to achieve at a high academic level in an unfamiliar language.

When Doris Alvarez first recognized the importance of putting student work at the center of the school, she also understood that a school must create standards in the context of students' lives. As a first step, Hoover made a commitment to support its students outside as well as inside the classroom. The most visible result is an onsite teen health clinic, one of the first in the nation. When students have problems ranging from simple disagreements, to pregnancy, to physical or emotional abuse, they can get immediate help. The clinic also staffs a full-time social worker to coordinate various prevention services. "If we were going to structure our reforms around looking at our students' work," explains Alvarez, "I felt it was important that we also look at their lives and realistically address some of the barriers they face. Our kids were coming to school hungry."

Essential Work: Making it Real

Given its emphasis on looking closely at student work and creating an atmosphere of mutual respect, it comes as no surprise that Hoover is an active member of the Coalition of Essential Schools (CES). The importance of this affiliation is obvious in the school's professional development seminars. At these seminars, new Hoover staffers become familiarized with the ten common principles (a tenth principle on democracy, equity, and inclusion was added in 1997) as

Hoover's Four Basic Elements of School Change (1987–1998)

1. Restructuring for Personalization
   - Hoover placed all 9th- and 10th-grade students in coalitions, where teachers work with the same group of students, plan together, discuss students' work, and coordinate activities.
   - Hoover replaced tracked classes at the 11th- and 12th-grade levels with 3 untracked career-based strands. All students are in a strand. Each strand uses career as a context to prepare students for both higher education and work.
2. Intellectual Focus
   - All coalitions and strands work to meet the same 6 Hoover Learner Outcomes (HLO's).
3. Portfolios and Standards
   - All students keep portfolios that they present regularly to demonstrate their progress towards each of the HLO's.
   - To graduate, every senior must demonstrate progress towards all 6 HLO's to a panel of adults from Hoover and the community.
4. Supportive Learning Environment
   - An onsite health clinic, alumni mentors, job shadows for all students, and programs such as AVID and Pathways (both designed to provide support and raise expectations for students at risk) have contributed to a school culture that makes all students feel supported and challenged.

the underpinning of the Hoover philosophy. Even more interesting, however, is the way Hoover has married CES principles with elements of school-to-work reform.

One example of this convergence is Project X, a required senior project in the Health and Human Services Strand that combines CES methods of critical inquiry with career and community exploration. Through Project X, students have formed action groups to propose and win grants for projects as varied as a public service billboard funded by the Mid-City Development Corporation, a campaign to beautify the campus, and a trilingual newspaper ad and survey on immunization in the local City Heights community newspaper.

Minh and Cesar, two students who helped to create a high school issues web page, explain Project X this way: "The idea is simple. It's just to make school work real. When you do that, it becomes real work." Dr. Shimone Chamille, a public health consultant who coined the phrase "social entrepreneurship" for Project X, has been particularly impressed by the value of student input in the project: "The students live in the neighborhood and see needs in specific ways that we can't. For instance, a group looking at homelessness picked up the fact that gloves were a major need for homeless individuals because they often scrape and cut their hands."

In the Hoover tradition, students presented their Project X proposals publicly to a panel made up of the principal, Dr. Chamille, and a reporter from the *San Diego Tribune*. In each proposal, students explained the rationale, presented a budget, and connected the project to their learning.

Career and College

All Hoover students prepare both for higher education and career as complementary rather than mutually exclusive goals. Hoover's career-based strands do not channel students into a specific occupation; instead, through job shadows

"I'm lucky because I've had teachers who have kept me focused. I believe the quality of the school is only as good as the quality of the teachers inside the school. Teachers don't get credit for the work they do . . . but I know how hard my teachers work."

— Hoover senior

and career investigation essays*, they expose students to the full range of jobs within an industry — from nurse's aide to surgeon to medical researcher; from administrative assistant to financial derivatives analyst. These career strands are permeable: students may move between them during their time at Hoover. Students and teachers see the strands as a context for exploring interests and developing academic skills, rather than a recruiting mechanism for a particular local industry.

One traditional alternative for low-income urban students has been vocational education, wherein students not bound for college are trained for jobs such as machinists and carpenters. Unfortunately, many of these jobs have disappeared in the San Diego area. More disturbing, the traditional vocational track channels students away from higher education and tends to limit rather than expand their opportunities. Overwhelmingly, students in the vocational track tend to be low-income and minority. For Hoover, a school committed to training all students to use their minds well, the traditional vocational system is not an acceptable alternative. As Doris Alvarez puts it, "As the child of parents who did not speak English in New Mexico, I was very aware of the low expectations schools already tended to have for non-English speaking students and their families."

With its roots in the Coalition of Essential Schools, Hoover's strands draw heavily on the leadership of several humanities teachers. As a result, the emphasis has been on career as a context for encouraging students to use their minds well in coming up with critical questions and classroom-based projects. For instance, one student's somewhat humorous initial question, "Is the toothbrush or the toothpaste more important in brushing your teeth?" resulted in interviews with dentists, research on the biology of tooth decay, and a critical issue paper.

Indeed, the strongest evidence of changed practice at Hoover High School usually shows up in academic classrooms. In Tom Fehrenbacher's Health & Human Services humanities class, students come up with essential questions about John Hershey's *Hiroshima*, research the effects of radiation on the human body, and meet with guest speakers from the health care field. In the Ninth-Grade Coalition, Carrie Pierce's algebra students build scale models of the "House that Math Built" to learn areas, perimeters, and ratios as well as construction techniques. Pierce, who like many of her peers at Hoover has a long personal commitment to community service, has encouraged students to take their building to a more practical level. Students from her classes have worked to design, build, and develop a recreational area for younger children.

In Richard Norton's Tenth-Grade Coalition humanities class, students learn what archaeologists do by digging through piles of sand to map, label, and speculate about the significance of artifacts found there. Students mark their findings, argue about the identity of what they have found, and converse in an atmosphere that has both the noise level and the purposefulness of real work. Norton, dressed in an Indiana Jones hat and safari shirt for the event, points out, "It's not really about training them to be archaeologists. Not many people can

*Adapted versions of Hoover career investigation materials can be found in Practitioner Materials: Connecting Activities.

make their living that way. It's more about teaching critical thinking and group skills. But it also helps raise their expectations about what they want."

Exploring Careers in the World

Hoover staff are candid about the fact that they would like to instill more career awareness and more opportunities for students to spend time in the community. A close relationship with alumni through the Hoover Foundation has allowed the school to develop a strong mentoring program. Mentors meet with students weekly in a flexible format that isn't necessarily work- or career-based but often touches on those topics.

"A lot of the alumni went to the school when it was primarily white and middle class. To put it frankly, many of them start out afraid to come here. Invariably, they are surprised by how safe the school feels when you're actually there. It wasn't this way a few years ago," says one active alumnus.

In some cases, the alumni mentors help carry out mock job interviews, talk to classes about their work, and review exhibitions. However, their important involvement tends to be far less formal. "We give them yet another adult they can connect with, and sometimes it makes all the difference," says Paul Hartley, head of the Hoover Foundation. In this sense, Hoover's alumni mentors serve as a post-secondary link with a human face.

As of 1998, all Hoover students also engage in a job shadow before they graduate. While students often spend no more than a few hours at a worksite, some students have been able to take on longer-term, more structured experiences with companies and organizations. One Hoover senior, José, did a summer internship with the internationally known Scripps Institute of Oceanography in La Jolla, CA. He explains, "My science teacher knew I was pretty good at science. He suggested that I go to the interview. Now, I know that I want to go on to university and make a career in the sciences." Remarkably, José had emigrated from Mexico just 11 months before taking the internship.

Establishing more work-based learning opportunities poses a particular challenge to Hoover. As a border city with a large number of semi-retired individuals already supported by pensions, San Diego's job market tends to be fiercely competitive. There are few career opportunities for students' parents, much less chances to create student placements. Moreover, San Diego is geographically the largest major city in the United States. The work placements that do exist tend to be far from the school and not easily accessible by public transportation.

These challenges force Hoover teachers to use their imagination. One strategy has been to engage in community exploration and development. Hoover's Business Strand has begun to implement a version of the CityWorks curriculum (developed by the Rindge School of Technical Arts in Cambridge, MA) that calls on students to identify, map, and explore needs in their own neighborhood. Students visit local businesses during regular class hours under the supervision of student volunteers from the nearby College of Nazarene. During these visits, students interview workers and business owners, uncovering a rich variety of issues. In one interview the manager at a local pest control company explained to students the close relationship of inspections to real estate sales, the need for licensing, the health impact of working in the industry, and liability for injuries and damages. Part of the purpose of these interviews is to develop designs for a

Hoover's alumni mentors serve as a post-secondary link with a human face. "We give them yet another adult they can connect with, and sometimes it makes all the difference."

— Paul Hartley
Hoover Foundation

Graduation at Hoover

- Portfolios assessed against HLO's
- Senior exhibitions
- At least one job shadow

Hoover Data

- Drop-out rate: 2.5% in 1997 (was 13% in 1987)
- Post-Secondary data survey of 1996 graduates:
  22% to four-year college
  40% to two-year college
  26% to jobs
  10% to military

school-based enterprise serving Hoover's City Heights neighborhood. Once they identify a project, students will secure financing, develop a business plan, renovate a vacant building, and finally open up for business.

Other strands and coalitions have similar projects underway. As it builds on these explorations, Hoover hopes to develop more work-based learning opportunities for all its students in a way that also serves to revive the community.

Life After High School: New Transitions

Hoover regards life planning as something that all students must carry out during all four years in high school. Through portfolios, Hoover students regularly record and present their plans as a way to show their progress as "lifelong learners" (one of the six HLO's). The portfolio system helps students recognize the close connection between success at Hoover and success in adult life, no matter what their plans may be.

And because portfolios and exhibitions help adults at the school become more aware of students' interests, experiences, hobbies, and talents, the staff can better assist and counsel students in preparation for post-secondary life. The better they know their students, the better advisors they become.

Hoover is gaining recognition for its internal system of assessment in the world beyond school. Thanks to the Transitions Project, a collaboration of six high schools and the University of California and California State University systems, a Hoover student can now submit an alternative transcript that lists portfolio rankings in lieu of course grades. In some cases, this transcript is accompanied by an electronic portfolio that makes samples of the student's work available at the touch of a computer key.

Over time, the admissions offices have found these alternative transcripts more rigorous and informative than traditional letter grades. Since 1996, several Hoover students have used alternative transcripts along with conventional SAT scores and grades to gain admission to university. In 1998, all Hoover students who could apply through the Transitions program did so. One direct result is that Hoover students have more opportunities for admission to four-year colleges and universities. In fact, some Hoover juniors are enrolled in college classes now, through a distance-learning program with San Diego State University.

Supporting Teachers

Because the strand and coalition structure at Hoover asks teachers to embark upon untraditional territory, Hoover has established training and support systems to help them meet this challenge. These systems include summer institutes for curriculum development (some of these in collaboration with San Diego State University), conference attendance and presentations, and staff meetings for looking at and discussing student work and curriculum. Exhibitions and portfolios, however, serve as Hoover's most powerful staff development tool. Because they include work from several different classes, the portfolios ensure that Hoover teachers look directly at work produced in other classrooms.

In one Health & Human Services meeting, teachers look over a series of essays from a humanities class along with a "pregnancy" pamphlet jointly

produced by a humanities and a life skills class for the strand's upcoming Health Fair. It is clear that the discussion about how to weigh factors such as the sophistication of the thought versus the level of finish are part of an ongoing debate within the strand. More impressive, it is clear that the teachers have become used to showing one another their work. At no time does the discussion veer into debates on the number of textbooks to order or how to find time to finish their progress reports. Instead, the bulk of the time is spent on reaching agreement within the strand about what defines quality work in all Health & Human Services classes.

This system has its price. Teachers readily admit that in many ways teaching at Hoover is harder than at other schools. They attend more meetings, spend more time designing lessons and assessing work, and devote more time developing innovative projects that directly suit the needs of their diverse student body. Many of the most committed teachers at the school have no children of their own. Some teachers feel that the price of change is too high and they leave. But those who stay feel that the extra demands pay more than their share of dividends. Leadership roles within the school seem to go to staff who take on the challenges rather than on the basis of seniority. "It's harder to teach this way, but it's worth it," says Lee Mongrue, one of the few teachers at the school who has been there longer than ten years.

At many restructuring schools, the vision clearly comes from the principal and perhaps one or two other staff members. While Doris Alvarez receives widespread recognition as the driving force behind much of the school's restructuring, many of Hoover's teachers share the vision. After a visit to Hoover, NUHS project mentor Judith Warren Little remarked, "I was genuinely impressed by the number of teachers at the school who understand and play an active role in the school's restructuring."

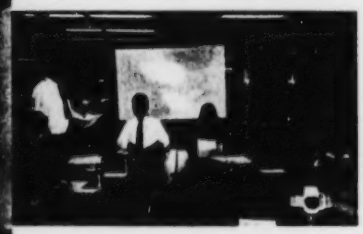
Looking Ahead: What's a Good School?

Hoover has been recognized as a national achieving Title I school; its Principal was named MetLife/NASSP 1997 National Principal of the Year; and the NUHS project chose it as a national demonstration site for whole-school reform. Yet in 1997 Hoover was named one of the 20 lowest performing schools in the District's Process for Accountability Review (PAR). This was an assessment based on course grades in the "major" subjects and a one-time administration of standardized tests. Of course, such a snapshot approach to school assessment, deliberately blind to longitudinal data and school goals, tells next to nothing about school performance. No one can state on the basis of such data whether a school is failing — or succeeding.

The great irony is that NUHS picked Hoover largely because its methods of assessment place it firmly in the camp of those who argue for school accountability. Hoover's emphasis on looking at actual student work as an internal and external measure of its progress puts it in a distinct minority among high schools. The school has consistently encouraged outsiders to look at the work of its students and teachers. Almost 200 parents come to the Health & Human Services Fair to view student exhibitions each year. Adults who view actual student work and who serve as judges for senior exhibitions are routinely impressed

Staff Development and Planning

- Summer institutes
- Weekly team meetings
- Six-week mini-sabbaticals



by the quality of what they see, particularly in contrast to what they see at schools that serve similar students.

The San Diego assessment, part of what the *New York Times* has reported as a growing trend by local districts to attempt school improvement by public shaming, has been frustrating and demoralizing for the Hoover community. But the broader implication is clear: Hoover and like-minded schools need to develop assessments that convey a clear sense of student development and school development over time.

There is no easy way to accomplish this. Minimally, one would start with site-generated statements of objectives, working with teachers and families to develop an assessment that would answer a school's questions about itself. One would collect a broad range of longitudinal data: comparative test scores over time, college entry and retention data, student and parent surveys, student portfolios, teacher portfolios, even school portfolios. In fact, this is precisely the work that Hoover is engaged in, as it assesses its performance against its own SCANS-based learning objectives and the principle implied in its career strands: the school should make adult work and learning accessible to students. Some of the longitudinal data, while still sketchy, are encouraging. A survey of 1996 Hoover graduates indicates that 65 percent remain enrolled in two- or four-year post-secondary institutions in their second year out of high school.

In the meantime, Hoover staff continues to look closely at student work, to support its students as individuals, and to make the connection between Hoover and life beyond the school as direct and explicit as possible. As humanities teacher Tom Fehrenbacher puts it, "We don't pretend that we're there yet, whatever that may mean. We do feel that our portfolios have allowed us to see where we're going as a school and find the way there." Hoover students put it more bluntly: "The only kind of students who don't fit in here are lazy ones. The school expects you to do a lot. It doesn't let us coast. We see our friends do that at their schools. In the end, it's not always fun but it's worth it." ■

St. Louis Career Academy

ST. LOUIS ACADEMY

AT A GLANCE

St. Louis Career Academy
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Tel: (314) 772-8200
Fax: (314) 771-2150

Vonnelle Middleton, Principal

A New Vocational School with Life Sciences and Technology Career Pathways

Opened: September 1996

Students: 315 (120 in 9th grade, 215 in 10th grade. 60% African American)

Projected Enrollment: 400-450

Staff: 21 full-time, including 2 administrators and 3 instructional facilitators

Admissions:
40% from St. Louis County, 60% from the City of St. Louis
⅓ selected at random, ⅔ selected based on
• interviews • grades • reading and math scores
• attendance and discipline records

St. Louis Career Academy

Building the Foundation for Lifelong Learning

IN A LARGE, OPEN, AND QUIETLY BUSTLING computer lab, Eric works intently at his station. With only one day to go before he and his project team present their research on neighborhood health centers, Eric rushes to put finishing touches on a digital bar graph representing the top ten reasons for health clinic visits. In an adjacent exhibit gallery, Eric's teammates Jeanelle, Kelsey, and Tighe busily construct presentation boards containing photos, interviews, electronic research findings, and their floor plan for a new clinic. The team works quickly, hoping to catch an hour at the end of the day to do a dry run of their presentation.

From the look of it, Eric and his team might be part of the research and development division of a health care corporation. In fact, they are high school sophomores involved in a typical activity at the St. Louis Career Academy (the Academy).

Form Follows Function

Located in the renovated shell of the former Southwest High School, the Academy's unique architectural design reflects its unusual pedagogy — a blend of computer-based academic instruction and community-focused project-based learning. Three open-area labs, each housing up to 120 computer workstations and a central space for group exhibits and presentations, make up the bulk of the building. Teacher offices, conference areas, and rooms for small group project work line the periphery of the labs. The overall result accomplishes the vision of the Academy's architect: to provide a space that accommodates individual, small, and large group project work while remaining flexible enough to adapt to the changing needs of the school.

The faculty see both the architecture and the curriculum as ideally suited to achieving their mission of "creating a personalized learning environment which promotes self-directed learning using technology and real-life experiences." Behind this mission is a quest to ensure high achievement for all Academy students. To that end, the computer-based instruction is intended to assist students in improving their basic skills in math and reading as a foundation for more intensive course and project work.

With over 300 computers, the Academy boasts one of the largest high school computer networks in the country. As one would expect, the Academy's staff place a high value on the use of computer technology for teaching and learning. They have learned in a very direct way, however, that the computer cannot replace the teacher, especially in a school where students spend much of the day developing projects and exploring the community.

"At other schools your are not a name — you are a number. Here it's different. The principal knows your name and not because you are in trouble."

— Janine, Academy student

A New School is Born

Since the early 1980's the Federal Court has been trying to find a remedy to resolve a case in which the State of Missouri was found guilty of operating separate vocational schools for black and white students. After several failed efforts, U.S. District Judge George R. Gunn, Jr. issued an order creating a new "St. Louis Career Education District." The district serves both the City of St. Louis and St. Louis County. Under Judge Gunn's order it will eventually operate four vocational schools and a number of satellite programs.

The St. Louis Career Academy is the first school in the District. The Board of Education determined that the Academy would be a "break-the-mold" school, designed to incorporate the best in learning theory, technology, and curriculum that fully integrates academic and vocational technology.

In September 1996, the Academy opened its doors to 240 freshmen. Now in its second year with 315 ninth- and tenth-grade students, the Academy will grow to a four-year high school with a student enrollment of 400–450. Sixty percent of the students come from the city of St. Louis and thirty percent from the county. More than half are eligible for free and reduced lunch. One-third are selected randomly from applications, and the other two-thirds are chosen based on interviews, grades, reading and math scores, attendance, and discipline records. For the past two years, the district has received over three times as many applications as spaces available.

An Ongoing Process

When first envisioning the school, Academy planners led by Dr. Larry Hutchins visited innovative programs all around the country to observe and bring together best practices in technology education and community-based, work-based, and project-based learning. Now, in the school's second year, the staff and students remain intensely involved in an ongoing process of building a "quality integrated vocational education program."

Principal Vonnelle Middleton knows that a good school needs to be able to look critically at its collective work and "turn on a dime" as needed. She attempts to give her staff the encouragement, time, and permission they need in order to try new things and take risks. Making it a point to know every student personally, she aspires to create a school that offers students a sense of family as well as purpose.

During its brief life, the Academy has experienced a number of changes with regard to scheduling, staff allocation, teaming, and the introduction of service learning to the curriculum. Some of these changes have represented dramatic shifts in direction for the school. Staff and students continue to work together to refine their vision and pursue their abiding questions: How to best use computer technology for teaching and learning? How to use computers in project-based learning? How to deploy adults in the building so as to keep teacher/student ratios low and personalize the learning? How to create project- and work-based learning experiences that allow students to pursue their own interests and passions? How to address the state's preoccupation with standards and Carnegie units? How to create an administrative structure that empowers the principal,

teachers, and students to take ownership of a shared vision for the school? And finally, the Academy is finding answers to the question every innovative school must address: how to stay flexible in a changing landscape?

Andrea: A Day in the Life

It is 7:38 a.m. and Andrea is annoyed. "I don't see what all the fuss is about. America is a country founded on everybody's right to say what they think, right? People don't have to believe her if they don't want to!" Having arrived late and breathless to her Home Team, Andrea jumps headlong into the middle of their discussion about Oprah Winfrey, free speech, and mad cow disease. Her Home Team leader, Ms. Barker, thanks Andrea for her opinion and asks where she has been. It turns out that she came in early today to research something on the Internet and check her e-mail, then lost track of time. Fifteen minutes remain of Home Team, a place where students report daily at the beginning of school to get focused, talk about issues of the day, do school work, and review their daily schedules and needs with Ms. Barker.

Andrea's day is very different from that of her friends attending the neighboring high school. Today she spends one hour studying pre-calculus and other math using a computer software program; attends an English seminar where her team develops a script from a personal narrative that she wrote; works with five other students in a "Six-to-Solve" project to complete a research paper and presentation about ideas for recruiting potential Academy students; and attends a life sciences class where she does electronic research on the Internet to find illustrations of mitosis for a visual display she is putting together.

A sophomore at the Academy, Andrea says she loves the opportunities and freedom she has to work with computers, learn at her own pace, and explore her career interests. She especially enjoys her internship at the Mid-America AquaCenter, where she works two days a week tending spiders and snakes and giving tours to elementary school children. Not only does Andrea get to wear a bright blue AquaCenter uniform that she says "looks great with my red hair," but she is discovering how much she likes to work with children and how interesting she finds the physiology of animals. She thinks that she would like to be a pediatric physical therapist and wants to find out more about the field. Like many of her fellow students, Andrea appreciates the school's unusual mix of computer-, project-, and work-based instruction. "If I were at my neighborhood high school," she says, "I would be sitting in a classroom somewhere, listening to lectures all day."

Two Approaches to Learning

The Academy is organized around three "houses" of approximately 115 students. Each house has a team of five teachers, an administrator, and an instructional facilitator. Teaching teams try to stay with the same group of students for at least two years to cultivate a nurturing environment and establish strong personal relationships.

At the beginning of this year, students started the day by meeting with their Home Team leader for a preview of activities and events for the day. In

Academy Structure

- Three houses of up to 120 students (one 9th-grade, two 10th-grade houses)
- Three computer labs with a total of 300 computers
- Up to 2 hours daily computer-assisted instruction
- One hour of computer applications and multimedia presentation
- Two to three hours of community-oriented project-based learning
- Advisory meetings daily (12–15 students per group)
- Few traditional classes or textbooks
- All students make job shadow arrangements
- All juniors and seniors will do internships

"When you work in a group, you learn about people in your classroom, their different personalities and how people think. You learn how to come together as a team. It helps you deal with the real world."

— Academy student

March, a different structure developed, replacing Home Teams with an advisory later in the day. During advisory, students and teachers develop and review "Individual Learning Plans." For the remainder of the day, they engage in a mix of individual computer-based study, course seminars, and project-based learning activities. Rather than rely primarily on books, students study math, science, English, social studies, and geography at the computer. Each student works at a personal computer, using instructional software tailored to individual needs and skill levels. Teachers check every student's progress daily, offering remedial support and supplemental learning activities as needed through individual and small group tutoring.

"Destinations," a Simon & Schuster Education Group software package, guides students through the four major subject areas. According to Academy teachers, the strength of the software lies in its ability to help students work at their own pace while filling in "gaps" in their academic skill base, particularly in basic math and reading comprehension. Herein lies the Academy's commitment: to help students build a foundation of basic skills for more advanced course work, independent study, project work, and work-based learning experiences.

Apart from the computer, Academy students learn through projects in a variety of contexts. In "Six-to-Solve" teams, they work on projects that relate to their own interests as well as community issues. Projects have involved studies of teen pregnancy prevention, teen recreation, teen employment, park and garden restoration, and many more.

Lasting from four to six weeks, Six-to-Solve projects require students to develop the independent learning skills necessary to solve semi-structured problems. Students write papers and journal entries to reflect on all of their project research and experiences. They also learn to work cooperatively and effectively. As one student explains, "When you work in a group, you learn about people in your classroom, their different personalities and how people think. You learn how to come together as a team. It helps you deal with the real world."

While sophomores work in Six-to-Solve teams to create their own neighborhood improvement projects and issues, freshmen form "2004" teams, which focus for six to nine weeks on projects that explore the city's history, demographics, resources, and needs. St. Louis 2004 is a city-wide initiative developed by community groups and professionals to make St. Louis a more competitive and better place to live by the year 2004. The school's participation involves looking at the city's development from the time of the Louisiana Purchase in 1803, to the World's Fair in 1904, and into the future, working to create and implement visions for what the city could be like in the year 2004 and beyond. Students learn about what the city has to offer them, and what they have to offer the city.

As part of St. Louis 2004, students have explored the Soulard neighborhood and visited the Missouri Historical Society (to learn about the World's Fair), Grant's Farm (to study the Civil War), and the St. Louis Arch Museum (to study the Louisiana Purchase). They communicate their findings through oral presentations and exhibitions. Not surprisingly, they use computer and multimedia technology to conduct research, analyze data, and express their ideas.

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Career Exploration and Work-Based Learning

The Academy integrates career exploration into all aspects of the curriculum. Speakers come to the school to discuss their professions with students, and students perform job shadows at various companies and non-profit organizations. The school is moving toward a model where Academy students will learn through six to nine week job shadowing experiences in health and human services, environment and natural resources, and technology.

Presently, many sophomores are engaged in internships that last anywhere from nine weeks to a year at the Mid-America AquaCenter. These students act as curators for specific exhibits, responsible for everything from cleaning the cages and feeding the animals to testing water chemistry and giving tours to other school groups. They also develop research projects, such as "How Autistic Children Respond to the Exhibits." Other internships take place elsewhere, including one at the Academy itself with the computer systems engineer. In the process, most students are involved in researching careers through interviews and shadowing experiences.

As juniors and seniors, Academy students will participate in internships for approximately ten hours per week throughout the year. They will reflect on their experience through journal writing, individual learning plans, and discussions in advisory groups. Academy staff hope these real-world experiences will allow students to explore their career interests and develop work and life skills, while preparing to enter the world beyond school.

Assessing the Learning

Academy students receive conventional letter grades and Carnegie units reported by subject. They also demonstrate their work and learning through portfolios. The Academy is developing a digital portfolio format to showcase examples of student work and to paint a multi-layered portrait of each student's interests, goals, and accomplishments.

The Academy seeks to improve students' basic skills as quickly as possible. According to the Destinations internal assessment, which does not align with Missouri state grade level indicators, students showed an average academic improvement rate of 5.5 levels in one year. That is, students who upon enrollment tested at the fourth-grade level for reading and math are now doing ninth-grade level work. As hoped, academic gains for black students have equalled those of all others. Students taking the Test of Adult Basic Education showed an average improvement rate in reading and math of 4.35 and 4.62 levels, respectively.

Looking Ahead

The St. Louis Career Education District, whose charge was to build a "quality integrated vocational education program," has provided Academy staff an opportunity to develop a new model of technical and career programming for the 21st century. Yet despite, or perhaps because of its innovative design, the Academy's model has come under attack from proponents of the old system. At a time

"We seem to be more computer literate than other high school students, and we have a better understanding of not just one aspect of career choices, but many possibilities. I picked this high school because I wanted something different."

— Academy sophomore

Academy Data

- Attendance: 93%
- Drop-outs: .07%
- Academic gains in math and reading for black students have equalled those of all others

Post-Secondary Links

- Washington University Total Quality School
- Tech Prep Consortium with St. Louis Community College system

All of the NUHS sites have come under local pressure to moderate their reform agendas and become more like other schools in their districts, even when there are clear indications that their students are being better served than their socioeconomic counterparts in other schools.

when the staff and students are working hard to fine-tune their vision and implement the curriculum, they are under intense scrutiny from outside forces, many of which would like to see the school fail.

In the summer of 1997, the Special Education District, which currently operates vocational programs in St. Louis County, appealed the judge's original court order and secured a delay in its implementation. The court will not rule on that appeal until July 1, 1998. Thus, it is still unclear whether the plan for the new Career Education District will prevail, although the school's achievement of equitable gains for blacks and non-blacks offers hope that the court order will be fully implemented.

What *is* clear, however, is that the political pressures cast upon the Academy's reform efforts are not unusual. All of the NUHS sites have come under local pressure to moderate their reform agendas and become more like other schools in their districts, even when there are clear indications that their students are being better served than their socioeconomic counterparts in other schools.

Computers and People

When asked what they like most about the Academy, students often reply that they enjoy working with computers and learning at their own pace. They think that their experience with computers will give them a "technology edge" over their peers in other high schools. They also express excitement about being part of "a different kind of school" where they can pursue career interests, learn through projects, and interact with the world beyond the school walls. "We seem to be more computer literate than other high school students," says one sophomore, "and we have a better understanding of not just one aspect of career choices, but many possibilities. I picked this high school because I wanted something different."

At the same time, students recognize that the Academy is still in its formative stages, and that certain pieces of its programming and identity have yet to be realized, or are problematic. They have learned, for example, that they can fool the computer by "smart guessing" or by memorizing answers for re-tests. Some students wonder how much of their learning they will retain. Others have "maxed out" on the English and math programs and do not feel challenged by their supplemental work.

A more pervasive problem, which directly results from the school's emphasis on computer-assisted instruction, is the trade-off between computers and teachers. In order to provide each student with a personal computer, the Academy has had to carry a high teacher/student ratio. For this reason, teachers have had difficulty giving students the necessary support and guidance in their project teams, their advisories, and their academic courses. Some students have voiced concern about their teachers being overwhelmed, or inaccessible. They would like to feel that they both know, and are known by their teachers in a more personal way. Students also say they want to play a more active role in making decisions about the school's focus and direction.

The Academy staff have tackled these issues head on. During the past year and a half, teachers have worked to clarify their goals and strategies. The school's original plan with NUHS to develop project-based pedagogy has evolved into a

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re-envisioning of the school's guiding principles by everyone — teachers, students, administrators, parents, and community.

Staying Flexible

The Academy's process of self-creation gives new meaning to the concept of learning by doing. Despite the challenges, Academy staff and students stay remarkably open and enthusiastic about the process of reinventing the school. Through the NUHS Project's practice of site to site visits, Academy staff have been able to get distance and perspective on their work, as well as feedback and ideas from "critical friends" who are moving along a similar reform path.

A number of the changes implemented by the Academy this past year were catalyzed by a visit to the NUHS lab school, the Met, in Providence, RI. During a three day "Design Studio," a team of 11 Academy adults and students joined a group from the Met to share ideas and strategies for personalizing learning for all students.

Academy students Randi and Janine came to the Met to experience first-hand another small school dedicated to breaking the vocational education mold. As the two student representatives on the team, Randi and Janine were particularly interested in looking at how Met students relate to their teachers, pursue their individualized learning plans, and engage in work-based internships. They were "blown away" by what they discovered — not only about the Met, but also about their own teachers and fellow travelers.

In three jam-packed days, Randi and Janine came to know a number of Met students well. They observed them at their internship sites and in their advisory groups. They spoke with them about how the Met curriculum allows them to pursue their personal interests, and how their advisory system fosters trust and connection between them and their teacher/advisors. They participated in a writing seminar, where students prepared their internship research papers, and sat in on mock presentations for the upcoming student exhibitions. They also attended an all-school "Pick-Me-Up" gathering where Janine read a poem about the Met.

In the closing event of the design studio, Randi and Janine shared their observations. Besides the powerful way in which the Met personalizes learning and engages its students, what impressed them most was the willingness of Met teachers to look critically at their own practices, listen to students, and work cooperatively with students to reshape the school. When Janine and Randi made a presentation to their teachers about student-teacher relationships, proposing recommendations for the Academy, the teachers responded, "We want that, too!" In that moment, a new understanding emerged about what it means to "build a foundation" for advanced work: the foundation is built on relationships. As Janine put it, "The missing piece of education today is trust, honesty, and communication between teachers and students at school and outside the school building."

The St. Louis team left with renewed energy and an action plan to re-institute student advisories, build an inventory of student interests as a way of building curriculum, create a weekly newsletter, and get students into mini-internships before the end of the year. The ability to make such a plan testifies to the engagement that emerges when students, as well as staff, are invited to participate in

The Academy's process of self-creation gives new meaning to the concept of learning by doing. Despite the challenges, Academy staff and students stay remarkably open and enthusiastic about the process of reinventing the school.

Staff Development and Planning

- Daily common planning time (1 ½ hours per day)
- Entire staff attended "Building Bridges" conference
- Professional development integrated with graduate credit

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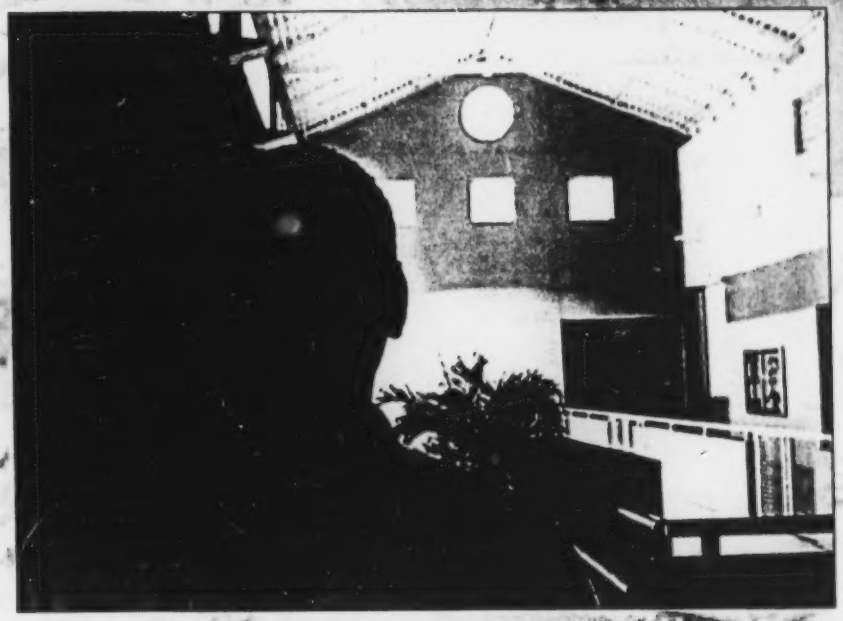
structuring the learning. The transformation of relationships that occurred in Providence was an illustration for the participants that such a transformation could also occur at home. Less than one month later, staff had already revised their schedule to free more adults to work with each Home Team. As a result, the student/advisor ratio for Home Team groups changed from 24:1 to an advisory of 15:1, and teachers and students are building stronger relationships.

Whatever the outcome of the restructuring, the larger lesson of the design studio is about institutional flexibility. How do schools develop the ability to "turn on a dime?" The St. Louis experience provides no definitive answers, but it suggests some key ingredients: create a context away from the school to reflect on purpose; carry on this conversation with a critical friend or friends; and invite teacher and student ownership of the process and the result. ■



William H. Turner
Technical Arts High School

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TURNER TECH

AT A GLANCE

William H. Turner Technical Arts High School
10151 N.W. 19th Avenue
Miami, FL 33147-1315
Tel: (305) 691-8324
Fax: (305) 693-9463

Darrel P. Berteaux, Principal

One School, Seven Academies

Opened: September 1993

Students: 2,073 (57% African American, 37% Hispanic, 5% white)

Teachers: 100 (55% white, 25% African American, 17% Hispanic)

Admissions: Eligibility based on attendance, conduct, and technical interest

Web site: www.dade.k12.fl.us/whtts

William H. Turner Technical Arts High School

Two for One and One for All

A GROUP OF STUDENTS are assembled around a conference table in the vice principal's office where visiting educators have just posed the question, "What makes Turner Tech so special?" Talking over each other with animated gestures and spirited voices, the students describe the school as a place that "saved" them from dropping out; as a place where the teachers "really know you by name and actually offer to help," and where, unlike the middle schools they come from, there are virtually no fights. Asked what they would change about their school, the students fall silent. Finally, one exclaims, "Chicken wings! We only get chicken wings for lunch in the cafeteria!"

The lunch menu notwithstanding, several pieces of evidence support the students' high praise of Turner Tech, but perhaps none better than the school's attendance record: Turner Tech maintains a 95 percent attendance rate — the highest in the district. There are no metal detectors, and the school's security guard spends most of his time escorting young visitors from neighboring schools out of the building and coordinating social activities for the school community.

On the academic side, Turner Tech has raised the bar for its students — who come from Miami's most economically disadvantaged areas — by raising the minimum passing GPA to 2.0. All students must take a math and science course beyond the district requirements in order to graduate. About 20 percent more Turner students pass the statewide high school competency test than in other comparable schools in the district. And of the 1997 graduating class, 78 percent enrolled in two- and four-year colleges and technical schools. While there are no advanced placement classes, many students still take AP exams. For example, students in the Agriscience Academy calculus class come to school on Saturday mornings, where amidst the sounds of livestock and the fragrance of gardenias, they study together for the AP calculus exam.

What is the reason for these successes? Turner Tech's carefully infused reform initiatives, such as membership in the Coalition of Essential Schools, the "two for one" diploma (high school diploma and industry certification), career academies, school uniforms, integrated curriculum, and school-based enterprises provide partial answers. But as a visit to the school confirms, the whole is greater than the sum of the parts.

Arriving at Turner Tech for the first time is an experience in itself. In a neighborhood of one-story houses and run-down buildings, a massive, art deco edifice emerges out of nowhere, impressive not only for its proportions, but also for its classic Miami pastels of yellow, teal, and salmon. Most passersby are surprised to learn that the building houses a high school instead of a cinema. Inside, the halls and common areas are as colorful as the exterior and offer students a bright and airy atmosphere for learning. A palpable energy radiates throughout the building.

"Those seven weeks taught us that having time to meet together as a team is the most important piece to true curriculum reform."

— Turner Tech teacher

Turner Tech embodies a culture that inspires and challenges all students, one that opens up rather than forecloses options for the future. Teachers know their students personally and respond to them accordingly — a rapport that many large urban schools fail to achieve. Students report that they are respected and trusted in a way that they had never experienced before coming to Turner Tech. It is a place where high expectations and a tone of decency are not just buzz words, but a daily reality. From the beginning, Turner staff have understood that to achieve this kind of success, it takes a common vision of what learning ought to look like, a clear set of goals, and a committed group of staff and students who form a community around that vision.

Creating a Vision

The Turner Tech vision began to develop long before the school opened its doors, in conversations between State Senator William H. Turner (then Dade County school board chairman) and current superintendent Roger C. Cuevas. Turner and Cuevas wanted to create a "school of choice" that would provide inner-city students with academic and technical skills for careers in the 21st century. Reviewing labor market and census data, Turner and Cuevas learned that the majority of Dade students grow up and remain in the county their entire lives. Moreover, the standard of living they achieve correlates with their educational level and their ability to progress along a career path. With this reality in mind, Cuevas hired a group of educators who could use this information to design the curriculum around viable career pathways.

This first group of teachers — who became known as the leadership team — were selected largely on their shared commitment to what philosopher John Dewey once called education *through* occupations. Like Dewey, they believed that practical and intellectual training for employment should go hand-in-hand. Moreover, all agreed that watered-down academics and narrow vocational training served no student population well, least of all their own. Guided by these principles, the team aimed to merge the best of vocational pedagogy with a rigorous academic program so that all Turner Tech graduates could find and keep a good job, go on to further education, or both. Under the quiet leadership of principal Doc McKinney, the faculty embraced the challenge of "break-the-mold" teaching and learning. As a result, Turner was the first school in the district to integrate academic and vocational curriculum, to organize advisory committees for each academy, to adopt a block schedule, and to use the workplace as a context for deeper learning.

Starting Up

It is mid-July 1993. As the construction crew works feverishly to complete its punch lists, the newly assembled Turner Tech leadership team congregates around a table in a room which they have fondly nicknamed "The War Room." It is in this room over the next five weeks that the school's mission and ethos will come to life. Teachers, working together in design teams, will create the master schedule, the curriculum framework, and the standards of excellence for all students.

Turner Facts

- Attendance: 95%
- Drop-out rate: 2.7%
- Ranked 6th out of 30 in Dade County in Grade 11 Competency Test, October 1996
- Turner students bettered statewide results in Writing to Explain and Writing to Convince

After long days, nights, and "renaissance weekends" of phone calls, research, and discussion, the leadership team makes three pivotal decisions. First, they resolve to design the school around the academy model as the best way to infuse new vocational pedagogy into the academic curriculum. Academies encourage exploration and skill development in broad occupational clusters, rather than teach narrow skills in antiquated "shops." And, most important to these seasoned teachers, the academy model is based on the notion of creating small learning communities to ensure that no student will ever remain anonymous. Today, the academies are 85 percent discrete, meaning that students take and teachers teach 85 percent of their courses within their own academy.

The teachers' second decision is to adopt the Coalition of Essential Schools Nine Common Principles, merged with school-to-work elements, as the framework for the curriculum. The War Room hums with excitement over such Coalition concepts as "student as worker," "less is more," and "tone of decency."

Third, the teachers decide to provide and protect common staff planning time, an ingredient that eventually becomes most significant to the success of the school. The team convinces the school district to let them squeeze an extra period into the block schedule so that academy teams can have time to plan together. Adding a period, they argue, is the only way to create time to focus on curriculum development. As one veteran teacher later put it: "Those seven weeks taught us that having time to meet together as a team is the most important piece to true curriculum reform. It's hard enough to find time to talk socially during the school day, let alone engage in serious, productive discussion."

Doc McKinney also made a pivotal decision that summer. Observing that the leadership team had taken ownership of the work, he decided to postpone the hiring of an assistant principal for curriculum and instruction. Instead, he created a curriculum committee where teachers could continue developing curriculum as a team. This decision served the school well in succeeding years, even though they did eventually fill the position. By then, the leadership team was functioning well enough to preserve the Turner vision under a succession of administrators.

Two for One: The Vision at Work

Turner Tech's mission is simple: to equip students with enough knowledge, skills, and experience to be successful in work and further study after high school. Every Turner graduate leaves with a "two for one" diploma representing certification in an occupational area as well as the completion of high school studies. Thus, "two for one" represents one mission for all; it serves as the foundation for the curriculum and encapsulates the identity of the school as a whole.

Turner students maintain a steady focus on the future. Entering ninth-grade students choose one of seven academies based on broad career themes. In the tenth grade, they choose one of 22 areas of specialization. Students are encouraged to make these selections early on, so that their course work has relevance and purpose, and so that they can complete the certificate of mastery by the time they graduate.

Turner staff work to ensure that all students take rigorous academic courses connected to their vocational studies. Additional funding for adult education courses at Turner has helped equip all vocational areas with the latest technology

Turner Academies and Certifications

Agriscience
- Animal Science & Services
- Landscape Operations/Sports and Turf Operations
- Veterinary Assisting

Applied Business Technology
- Computer Applications/Desktop Publishing
- International Business

Health
- Dental Lab Assisting
- First Medical Responder
- Health Unit Coordinator
- Home Health/EKG Aide
- Medical Lab Assisting
- Nursing Assisting
- Vision

Industrial Technology
- Diesel Engine Mechanics
- Materials Management & Distribution

NAF/Fannie Mae Academy of Finance

Public Service
- Criminal Justice
- Teacher Assisting
- Television Production

Residential Construction
- Drafting
- Finish Carpentry
- Masonry
- Shell Carpentry

Turner Tech and the Coalition of Essential Schools

The Nine Common Principles* at Turner Tech

Intellectual Focus
The purpose of schools should be to teach students to learn how to learn, to develop good habits of mind and work, and to develop thinking skills across subject matter.

At Turner Tech
- Application of critical thinking skills with hands-on learning
- Integrated Curriculum Units on environmental issues, including air, water, and noise pollution
- Students and teachers use "learning vocabulary" and reflect on work and learning

Less is More
Curricular decisions should be guided by the aim of student mastery and achievement rather than mere content coverage.

At Turner Tech
- Technical programs requiring 4 to 6 credits for certificate
- Establishment of student-run businesses

Universal Goals
Academics should be a priority for all students. An interdisciplinary approach helps students see the relationship of one content area to another.

At Turner Tech
- Commitment to untracked education with modifications for college-bound and exceptional education students
- Student exhibitions assessed using teacher-developed rubrics
- Community-service projects

Personalization
Teaching and learning should be personalized as much as possible.

At Turner Tech
- Students choose their technical academy
- Academies as small learning communities
- Summer internships, community projects, and individualized studies
- Academy projects, competitions, projects, assemblies, and uniforms

Student as Worker
Teachers should function as coaches; students should be responsible, engaged "workers."

At Turner Tech
- Focus on SCANS competencies and information literacy
- Tech Prep initiatives
- Technology applications, active learning, and field experiences

Demonstration of Mastery
Students should be passed only after demonstrating proficiency in subjects.

At Turner Tech
- Commitment to Competency-Based Curriculum
- Demonstration of mastery on district, state, and national tests

Tone of Decency
Schools should foster decency, trust, and high expectation. Parents should be "essential collaborators" in promoting these values.

At Turner Tech
- Faculty and staff model proper behaviors
- Emphasis on integrity, trust, and tolerance
- Peer monitoring of behavior

Teacher as Generalist
Teachers and administrators in schools should share teaching, administrative, and counseling duties.

At Turner Tech
- All staff model flexible behaviors
- Teachers counsel and guide students as well as plan integrated units

Creative Organizational Plan
The cost of high-quality schools should be comparable to that of traditional schools.

At Turner Tech
- Replacement of department heads with academy and core curriculum leaders. New roles include information center liaison
- Career academies, two-hour instructional periods, integrated curriculum

The Coalition added a Tenth Common Principle in November 1997

and course content. Each academy works directly with an advisory committee of local business and industry representatives who advise the staff on how to rid the curriculum of "narrow vocationalism," and on the skills students need to succeed in the world of work. These advisors also accept students in their workplaces as interns, exposing them to real-world contexts and applications. Over 50 percent of Turner juniors and seniors are engaged in internships, school-based enterprises, or other work-based learning.

Supporting Students at Work

Senator Bob Graham's office in downtown Miami is one of many internship sites for Turner Tech students. Entering the office on a typical work day, one discovers a virtual buzz of activity. Two people sit in the reception area awaiting their turn to speak to a member of Graham's staff. A voter is being profusely thanked and escorted past the security check-point to the elevators. Newspapers and magazines cover every available surface, and all the while the telephones ring.

Each year Senator Graham's office hires interns from neighboring high schools and colleges. Out of dozens of candidates, staffers accept eight, including two high school students. Interns eventually do everything that the full-time staff do, such as writing letters to constituents; scanning the local and national papers for stories about the senator, his constituents, or voter trends; and responding to important and sometimes politically sensitive phone calls.

Marisol Rodriguez is the internship supervisor at the Miami office. She also happens to be a graduate of the internship program in this very office and claims that the internship experience was what most compelled her to pursue a career in government. Marisol believes that immersing high school students in the world of work increases their investment in learning and motivates them to think seriously about the future. To ensure that students integrate their learning at work with their learning at school, she maintains close contact with high school staff.

Marisol's most important goal for the interns is that they learn to do things the right way, not just the fast or easy way. She wants them to learn how government works, and how to run it well. Due to the nature of the work in the office, and because of the rapid daily pace, she demands that her interns be mature, independent, and willing to learn. Marisol maintains that Turner Tech consistently provides students who are prepared, responsible, and professional. They make eye contact, speak clearly, dress appropriately, and convey genuine interest. While nearly every intern requires training in phone etiquette, letter writing, and other skills, Turner Tech students need the least attention.

Marisol attributes this to the heavy emphasis Turner Tech places on work readiness and career development in general. Staff at Turner Tech take the time to prepare students on the small things — like not wearing more too much jewelry and avoiding the term "yah" when "yes" is more professional — as well as the bigger things like time management, decision-making, and task completion.

Marisol believes that a successful internship program does more than just train interns. She emphasizes the importance of a true partnership between the school and employer. "No one can do this alone and still give students the full support and exposure to the 'real world' that they need to be successful in life. We make it work because we have entered into a working relationship with Turner Tech. It's

"No one can do this alone and still give students the support and exposure that they need to be successful in life. We make it work because we have entered into a working relationship with Turner Tech. It's not an ethnic thing, it's not a PTA thing, it's not a civic responsibility thing, it's a bona fide work-experience program and everyone involved takes it seriously."

— Marisol Rodriguez
internship supervisor

It would seem that Turner has succeeded in becoming a "post-Perkins" institution, where students receive a broad and rigorous preparation for the world beyond school, despite what their "certification" might indicate.

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The Integrated Curriculum

Along with their emphasis on work-based learning, Turner Tech academic and vocational teachers work together to develop "integrated curriculum units" (ICU's) linking technical and academic competencies. Effective ICU's draw from the report of the Secretary's Commission on Achieving Necessary Skills (SCANS), consider students' social and emotional needs, include performance-based assessment of both academic and technical work, and prepare students to perform successfully on standardized tests. Because teachers stay within an assigned academy, they are able to work on ICU's in cohesive teams over the long term. As a result, they have had the opportunity to develop curriculum coherence across grade levels and disciplines.*

From the beginning, the teachers aimed to make all ICU's rigorous enough to challenge students both intellectually and technically, and realistic enough for students to draw connections between abstract concepts and real-world applications. Reaching for this level of integration, teachers naturally entered into discussions of whether students are actually learning, and whether the learning has relevance to their future lives as students and workers. One result, according to vice principal Alberto Carvalho, has been the development of an ICU across academies focused on Work-Related Behaviors (WRB's) as the linchpin between technical competency and success in the actual workplace.

Teachers as Designers

On a typical "winter" day in Miami, the Applied Business Technology (ABT) team conducts a day-long retreat at a local community center. Fifteen teachers sit around a hollow square of tables, reviewing and planning an ICU around the theme of the global economy. As the teachers brainstorm ideas for interdisciplinary projects, one teacher records their thoughts onto newsprint that soon covers the walls.

This is the ABT team's second of three full-day retreats for the year. Given leave to use faculty meeting time as they wished, the teachers chose to allocate it in this way. Three days are not enough, they say, but it's more than many school faculties receive. Efficient and organized, these teachers clearly have a handle on the ICU process and, equally important, on how to work together. The meeting flows smoothly as one teacher facilitates, another records, and all tune in.

It was not always so. In Turner's first year, academy teams often spent more time talking about discipline and administrative matters than about curriculum integration. The reason: integration is difficult, and teachers need support to learn how to do it. The following summer, a team developed the ICU process, which still holds sway at Turner. Key staffers from each academy received in-service training to work toward school-wide implementation.

The Turner Schedule

- A/B Block Schedule: 6 periods, alternating days (Day A=periods 1,3,5; Day B= periods 2,4,6)

*See Practitioner Materials: Integrated Curriculum Units for an adapted version of the ICU process.

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Learning Through Occupation

In the 1990's, two pieces of legislation have revived a national debate among educational leaders about whether or not high school students should select a "career major." These are the Carl D. Perkins Vocational and Applied Technology Education Act (Perkins) and the School-to-Work Opportunities Act. Some experts contend that these acts discriminate against low-income students by forcing them to choose an occupation while higher-income students prepare for college. Others criticize vocational programs for being too occupationally specific and opting for narrow skill training, such as welding, over a broader exposure to an industry or career cluster, such as manufacturing science.

In response to such concerns, one Turner faculty member asks: "compared to what?" If these students did not attend Turner Tech, many would likely drop out, or graduate unprepared for college or employment. As long as they maintain a strong intellectual focus, students are being helped rather than hindered by the career majors.

In any case, several teachers argue that the point is moot — that Turner has, in effect, gotten rid of the "old vocationalism" by eliminating the division between vocational and academic subjects, by ensuring that all students are exposed to cutting-edge tools and technology, and by exposing students to a broad industry. In fact, linking hands-on learning with strong academics has led previously disengaged students to become active and excited learners, who see their major not as an end point, but as a stepping-stone to further education and careers. Michael, a senior in the Health Academy who will be certified as a nursing assistant, reports that he has no intention of stopping there. "Oh, no," he says. "I'm going to Florida State University next year. I want to go into pediatrics." He may, however, use his certification to help pay his way through college.

Michael's response, echoed by other students and borne out in Turner's post-secondary entry rates, prompts a reconsideration of the effect of Turner's 22 career majors. It would seem that Turner has succeeded in becoming a "post-Perkins" institution, where, contrary to what their narrow certification might indicate, students receive a broad and rigorous education that opens up a range of opportunities. In other words, the certification understates the work of Turner and the achievement of its students.

Looking Ahead

In *The Cunning Hand, The Cultured Mind*, Norton Grubb discusses the various strategies high schools around the country have developed to integrate academic and vocational programs. Warning that such efforts often run aground, he posits a set of elements essential to the successful integration of academic and vocational content:

- vision and leadership
- district support
- sustained efforts over time.

A close examination of these elements reveals both the reasons for Turner Tech's progress and the barriers that remain.

"A School of Choice"

Turner Tech students are admitted by lottery among the eligible.

Criteria for admission:

- **Attendance.** Students must have missed fewer than 10 days.
- **Conduct.** Grades in conduct must be C or better.
- **Interest.** Students must demonstrate a strong interest in a technical area.

Graduation at Turner

- "Two for one" diploma: graduates earn a high school diploma and industry-recognized certification
- Completion of Florida High School Competency Test (HSCT)
- Senior exhibitions

Turner Graduates, 1997

- 73% to post-secondary education
  - 17% to four-year college
  - 46% to two-year college
  - 10% to technical school
- 11% to job in field

"I see [my high school] experiences as affecting what I want to do in the future. Everything I do now has an impact on me later in life. For me, choosing a goal and then working towards it really works."

— Chris, Turner Tech junior

Staff Development and Planning

- Staff meet in teams 8–10 hours per month
- 30% of teachers in Critical Friends groups for peer review and discussion
- Summer curriculum planning institutes
- Inservice workshops aligned with Turner mission

Vision and Leadership

Because of Turner Tech's innovative practices and early successes, the district considers it a model for replication and a training ground for administrators. Turner has had three different principals and five assistant principals for curriculum and instruction in five years. The result of this rapid turnover is a recurrent uncertainty among the school's faculty about the school's direction and the continued support of their work.

Yet at the same time, Turner Tech staff exhibit the "bottom-up" leadership that is so crucial to innovation. Despite the administrative turnover, the staff remain adept at nurturing their own internal development capacity. They conduct productive meetings and work collaboratively. Understanding that their work must continue despite administrative turn-over, the staff keeps moving forward.

District Support

Like many innovative schools, Turner Tech is "building the plane while flying it." Still a work in progress, Turner Tech struggles to uphold its alter-ego identity as a replication site for the district. Their situation has lent itself to paradoxes not evident in other schools. Take, for example, the leadership team's hard-won common planning time. According to Turner staff, it was this extra planning period that led Turner to reach its status as an exemplary site. The district, however, preferred not to fund a feature that incurred additional costs. As a result, staff lost the planning period, and the school went back to a six-period blocked schedule. With less time to meet, teachers now generate fewer ICU's.

Principal Darrel Berteaux has attempted to address the problem by turning over all faculty meetings to the academies, thereby assuring each team eight to ten hours per month of planning time. Still, many teachers feel that bi-weekly meetings do not allow for the steady communication and follow-through afforded by daily meetings. Instead of a continuous flow of discussion and productivity between meetings, they now experience intermittent bursts of activity that diminish in intensity by the time they meet again.

Sustained Efforts

After spending enormous amounts of time and effort in the first few years to integrate the curriculum across all academies — during a time when all resources and support seemed to bolster that effort — Turner seems to be at a critical point in its change efforts. Momentum and morale are crucial to any lasting reform and, at the same time, difficult to sustain. Turner staff must find a way to maintain momentum even in a climate of reduced resources.

For all that, Turner has strong internal resources, including an extraordinarily enthusiastic and committed student body. When Turner Tech's administrative staff describe the school, they talk about its goals of high academic achievement and employability. The faculty talk about the academy model that eliminates teacher isolation and allows them to know their students personally. Students talk about the opportunity to learn and the relationships: "There's a big family thing going on here." All three descriptions are true, but perhaps none so important for a large urban high school as the last. ■

The Metropolitan Regional Career and Technical Center (The Met)

THE MET

AT A GLANCE

The Metropolitan Regional Career and Technical Center
80 Washington Street, Room 325
Providence, RI 02903
Tel: (401) 277-5046
Fax: (401) 277-5049

Dennis Littky and Elliot Washor, Co-Principals

A Regional Career-Technical School

Opened: September 1996

Students: 110 (38% white, 32% Latino, 22% African American, 2% Asian)

Projected Enrollment: 900 students in units of no more than 100

Teacher/Advisors: 8 (75% white, 25% African American)

Admissions: No requirements; program discussed thoroughly with families before enrollment

Web site: www.bigpicture.org

The Metropolitan Regional Career and Technical Center

NUHS Lab School

Learning Through Real Work, One Student at a Time

ORIGINALLY FROM THE DOMINICAN REPUBLIC, Rosa came to the Metropolitan Regional Career and Technical Center (the Met) hoping to improve her written and spoken English skills. As part of her learning program, she took an internship at the ambulatory surgery department of a local hospital, where her mentor asked her to produce an informational pamphlet written at the seventh-grade reading level. Rosa's Met advisor and her mentor helped her develop the skills she needed to complete the project. She read complex medical journal articles about the uses, interactions, and side effects of Demerol and morphine, and created a mathematical function that models the relationship between "button presses" and the amount of drug introduced into a patient's system. Rosa is now ready to write the requested pamphlet in English and intends to use her bilingual abilities to produce a much-needed version in Spanish.

Rebecca, another Met student, is in her second year as an intern for the Rhode Island Children's Crusade, a non-profit group that supports urban children in grades K–12. Recognizing her intelligence and talents, Rebecca's mentor asked her to plan a large conference of eighth-grade "crusaders" to prepare them for the transition to high school. As conference coordinator, Rebecca leads a team of adults, researches sites and costs, develops the program content, and arranges for presenters. She also writes press releases, conducts complicated budget transactions, and practices time management.

Ben has dyslexia. When he came to the Met last year, he was reading at a third-grade level. Deeply committed to improving his reading ability, Ben developed a learning plan to work on reading, handwriting, and organization. This year he has an internship at the local zoo, where he has created a scaled replica of a beach-front eco-system. Ben excels in building things and applying math skills. In order to produce blueprints for his eco-system project, he had to master the Gothic style of hand-lettering. With the help of his mentor and advisor, Ben also worked his way through some difficult reading and vocabulary to complete his research on plants. This winter, the zoo chose to exhibit Ben's replica at a large Flower Show at the Rhode Island Convention Center. Ben took on the responsibility of scheduling the entire exhibit day: he decided who staffed the booth, what materials and equipment were needed, and who was in charge of moving equipment.

Rosa, Ben, and Rebecca are all students at the Met — but more importantly, they are individuals. Recognizing and respecting every student's individuality, the Met aims to educate "one student at a time," building all curriculum, activities, and learning from the personal interests and needs of each student.

Met Learning Goals

- Empirical Reasoning or "How do I prove it?"
- Symbolic/Quantitative Reasoning or "How do I measure or represent it?"
- Communication or "How do I take in and express information?"
- Social Reasoning or "What do other people have to say about this?"
- Personal Qualities or "What do I bring to this process?"

A "Break-the-Mold" High School

In 1995, the Rhode Island Department of Education contracted the Big Picture Company to create a model school for a state-wide effort to improve secondary education. From the beginning, the Met's co-principals, Dennis Littky and Elliot Washor, envisioned a high school unlike anything ever seen before. First, this "break-the-mold" school would hold no formal classes or school-wide schedules. Students would instead devise their own schedules, consulting with advisors and mentors to develop academic skills as they pursued their interests through authentic work-based experiences. Second, portfolios, exhibitions of student work, and student and teacher-written narratives would supplant grades as the measure of student learning. Third, parents would contribute directly to their children's educational plans and goals.

In September 1996, the Met opened its doors to 50 ninth-grade students. Now a school of 110 students near the end of its second year, the Met will eventually house 900 students in nine distinct schools.

Starting with Student Interests

"The Met team works like this: the student, the advisor, the mentor, and the parents all work together to help students. Obviously, we get a lot of help from the adults, and they have played a significant role in my education."

— Carla, Met student

The Met employs a team approach to address the interests and needs of each student while meeting school-wide "Learning Goals." Beginning in the ninth grade, each Met student meets with a parent(s), internship mentor, and teacher/advisor to create an individual learning plan. Each team member plays an important role in the planning. A mentor may suggest that the student be able to design a spreadsheet for the company, while a parent may recommend that her son read the morning newspaper daily throughout the trimester.

The team meets at least three times a year to discuss the student's goals and progress. In addition, advisors communicate with parents and mentors through phone calls, letters, and written evaluations. If a team member believes that the student has not demonstrated sufficient learning, she has ample opportunity to make an impact. Explains one parent: "You have a say in what you feel they have and have not learned. It's good to be critical — you stress the areas that need work."

Learning Through Internships

Though each Met student has a unique learning plan, all students share one common experience: Learning Through Internship ("LTI"). Every Met student spends at least two school days per week alongside a mentor at a worksite. The Met uses the phrase "Learning Through Internship" to emphasize that the purpose is not to train students for specific jobs, but to motivate and contextualize the learning of essential skills. Through their involvement in work and

Sample Individual Learning Plan (partial)

Student: Teresa Cuevas

Advisor: Chris Hempel

Birthday: 7/26/82

Dominant Home Language: Spanish

Learning Team Members: Martin Goya (uncle), Eduardo Cuevas (father) Luisa Cuevas (mother), Chris Hempel, Teresa Cuevas

What are the student's areas of interest and passion?
I'd like to be a social worker who works with juveniles on probation and helps them with problems.

What has been the progress in learning specific technical skills?

1. **Statistical Skills:** I learned how to go from a decimal to a percentage and then to a degree. I also worked with the Excel program which I used to change my math work with percentages into any kind of chart, whether it was a pie chart or bar chart.
2. **Reading:** I have read many books, including poetry and life stories. For example, I read a book called *Always Running* by Luis Rodriguez, and I read a book called *Don't Look Behind You* by Lois Duncan and many poetry books, both in Spanish and English.

Does the student have any special needs or concerns?

1. **Math Skills:** I want to learn more math because I feel I need it. I already know some math, but need more practice. The way I will be working on math is by taking the Algebra Consultants workshop.
2. **Physical Fitness:** The physical fitness that I will be doing is going to the Future Fitness Center across the street on Westminster Street. I will be going to the fitness center three times a week for an hour, but after I start my LTI I will have to schedule my time differently.

community service, Met students develop skills in areas such as reading, algebra, and empirical reasoning.

Before deciding on an LTI, Met students engage in many activities to identify and develop their interests: reading, group discussions, informational interviews, job shadows, and workshops. Students link up with mentors at internship sites when they are ready to explore an interest in depth.

In the ideal LTI, a student does assigned tasks and works on a project that not only benefits the organization, but also arises from the student's interest, requires the application of academic skills, and promotes deep learning. With help from the advisor and mentor, the student prepares a project proposal, detailing the steps, milestones, and intended product, as well as the academic and social learning goals. Students present their projects at an exhibition at the end of each trimester.

As much as possible, students produce work that matters. Barbara, a tenth-grader who interns for a children's service organization, wrote an algebraic model to predict future populations and is now graphing the populations of LEP (limited English proficient) students in Providence. Peter, a sophomore who works at the Natural History Museum in Providence, describes his LTI project this way: "I'm documenting items from the basement because they don't have enough room to exhibit everything. I take the item and I photograph it and then put it on the museum's Web site. I have to interview all of the curators in the museum and I'm learning about the actual items I'm photographing."

Steps to an LTI

1. Students identify and pursue their personal interests.
   - interviews, reading, observation
   - networking
   - Met database of resources
2. Job shadows offer a closer look.
   - student-arranged, with Met advisor help
   - on-the-job observation
   - getting to know potential mentors
3. Students request an internship opportunity.
   - Met advisor helps
   - Advisor, student, and potential mentor meet to design LTI.

"In order to be a good mentor you have to personalize the commitment. This can be done in all sorts of ways, but the main goal is to establish trust and a deeper connection."

— Bert, LTI mentor

Mentoring at the Met

Internship mentors play a crucial role in helping to structure the students' activities, and in determining the depth and breadth of the LTI experience. Recognizing that mentoring holds great promise for enhancing the intellectual, emotional, and interpersonal development of young people, the Met has developed strategies and materials for helping mentors understand the importance of their role and perform it well.* As Elaine Hackney, LTI coordinator, explains, "We wanted to make the mentor role much more significant so that they could truly affect students' learning. So we made the mentor a key player of the learning team, and we orient mentors by stressing our goal of real-world exposure and personalized learning for each student."

The relationship between Sam, a Met sophomore, and Bert, his mentor, is illustrative. When Sam first met Bert, who directs ArtSpace (AS)–220, a nonprofit organization for the arts, they both experienced "an instant connection." The two quickly got to know each other by visiting museums and discussing poetry and art. "In order to be a good mentor you have to personalize the commitment," says Bert. "This can be done in all sorts of ways, but the main goal is to establish trust and a deeper connection. One way Sam and I accomplished this was to make an agreement together: I wouldn't smoke cigarettes if he played clarinet 20 minutes a day. Both of us violate the agreement now and then, but the point is that we are responsible to each other in a more meaningful way."

Bert also understands that good mentoring requires goal-setting, time, and follow through: "I realize that when I enter into a mentoring relationship, there is pressure on me to deliver. I take it seriously because I believe that these relationships can do wonders for adolescents and certainly make my life richer as well." He continues, "It's not just a 'love fest' with Sam, there has to be some work done, and I make this clear to him." Along with other projects, Sam is responsible for putting together the automated telephone schedule of events for AS–220. He also attends staff and other meetings with Bert on matters ranging from performance art to accounting.

Describing his rapport with Bert, Sam says, "When Bert asks me for something, it's not unexpected that I could ask him for something. It is incredible to me that an adult would think like that!" But Sam did not always feel so inspired. During his ninth-grade year at another high school, he became depressed and "mentally exhausted." Though he had always done well in school, he began to struggle when he reached ninth grade. "I told my parents that I couldn't take much more of this and if something didn't change I was gonna drop out." Sam's family decided that the Met sounded like a better option for him than the local high school. Within weeks of the start of the school year, Sam seemed like a different person. His LTI and his relationship with Bert moved that transformation along.

At his second trimester exhibition, Sam proudly displays a copy of an AS–220 anthology containing one of his poems. Later he presents his very own "chapbook" — a bound collection of his work. Bert observes that Sam's artwork

Learning Through Real Work

- In 1996–97, 43 of 48 students had LTI experiences and worksite mentors across 27 sites. Five did not have LTI's but had multiple job shadows.
- LTI's averaged 10 hours per week per student for 12.5 weeks.
- Of 47 assessments received, 38 mentors said they would like to be a Met mentor again the following year.

*Adapted versions of Met mentor materials can be found in Practitioner Materials: Work-based Learning and Mentoring.

and binding show "a great deal of sensitivity because each page contains unique sketches that enhance the flavor of the particular poem."

At the end, Sam's father thanks Bert for his personal investment in Sam's development. Sam's mother explains that they are seeing a different side of Sam. For the first time in a long while, he refuses to miss a day of school — even when he's not feeling well. His mother adds, "I have my days when I worry about whether the Met is preparing him for college, but then I see him so engaged in his work and I tell myself it's worth it. Because, let's face it, if he'd stayed in his other school, he wouldn't have finished high school, let alone college." Given the present quality of his engagement and his work, and the support of adults like Bert, Sam's prospects for the future seem bright.

Teacher as Advisor

The primary role of a Met teacher is to serve as an advisor, coordinating and guiding the learning plans of 10–12 students. Advisors spend the majority of the day connecting students to resources, coaching them in their work, helping them develop projects, and communicating with mentors and parents. While LTI's and project work offer Met students rich opportunities to learn and apply skills, students usually require additional instruction back at school. Advisors run short-term workshops on doing spreadsheets, for example, and tutor students in reading, math, software programs, and other areas. Some students also take college courses to supplement their learning.

Met students keep "learning journals" to communicate with advisors about their learning experiences, goals, and personal growth. In these journals, students record their learning processes, identify obstacles, mark milestones, and reflect on their own learning styles. They share their journals with advisors on a regular basis. Advisors make notes in the journals, offering comments, suggestions, and encouragement. Teachers keep journals, too, and share these with co-principals Elliot Washor and Dennis Littky.

Every morning and afternoon, students meet in groups with their advisors, where they engage in peer tutoring and critique, read, plan their schedules, and work on projects. As a year-end activity, each advisory group takes a four-day camping trip. A team or family spirit develops as students and advisor learn to trust and know each other. And because each advisory group will stay together for the full four years of high school, this connection will continue to grow.

Building a Community

Every morning, all members of the Met community who are on campus join in a 15 minute "Pick-Me-Up" (PMU). Here, students, teachers, parents, and visitors participate in activities ranging from poetry readings to movie showings, policy meetings, and dance presentations. The informal PMU environment helps draw out performance-shy students. "In the beginning of the year I would have never spoken at a Pick-Me-Up," says one Met student. "But now near the end of the year I have done at least five."

Another all-school activity that promotes community and student ownership is the weekly school Governance Committee meeting, where participants set

"At first I wasn't sure about my education, or what I wanted to do for work. After I started my internship, I began to see things differently. I realized that college is important. The kids here talk about college and about work."

— Michael
Met sophomore

"My most memorable learning experience was my visit to Vancouver [to help prepare a museum project]. It was a good trip for me because I learned a lot and things began to fall into place for me. I like being out of the building and going on trips. You can learn just as much outside the building as you can inside."

— Peter, Met sophomore

Met Student Travel

- Every Met student traveled outside of Rhode Island during the 1996–97 school year.
- Met students traveled to 11 states and Canada.

Individualized Scheduling

A Week From a Met Student's "Uncalendar"

school policy, design governance structures, and make other community decisions. The Met invites all members to participate as a way to practice democracy within the school.

Enrolling Families

"When the Met called me to say my son was admitted, I jumped for joy. It was like winning the lottery. His education means a lot to us. When I heard that the Met would be small, and had to do with involving parents and students, I was happy. We were all satisfied."

— Maria Silva, Met parent

Though the Met requires no official contract, Met parents agree to play an active role in their children's education. Over the course of the year, families will not only attend an intense orientation session, but will make an essential contribution to their children's learning plan meetings and exhibition panels. Leaders of recruitment and orientation sessions take special care to familiarize parents and students with the Met's expectations for family involvement as well as its commitment to individualized curriculum and LTI's.

Many Met parents choose to go beyond the standard requirements — largely because the Met throws special events geared to "build community and celebrate who we are," explains the parent engagement coordinator, Elayne Walker. Such activities include a Mother's Day Event and trips to New York City. Several parents and relatives have become mentors to Met students, and some have taken

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positions within the school through the Americorps program. A small group of parents attends weekly family engagement committee meetings, during which they plan upcoming events like dances and field trips, work on grants, and organize calling trees to make sure every parent gets the news.

"What's Happening at the Met," a weekly newsletter, updates families on events, schedules, and more. Larger whole-school meetings give parents the opportunity to contribute to critical decisions on structure and design. As one parent describes it, "The meetings really explain how they are going to do everything. They let the parents have a lot of input, and the kids also. And they take those opinions into consideration. When they were trying to decide when the school day would start, they were talking 8:30, 9:00, or 9:30. More parents liked 8:30, and they went with it."

Met family members may drop by the school for a visit at any time. One mother, Brenda, who used to work across the street from the Met Center, started many of her days with her son and his peers at the Met PMU's. Later in the day, she would mentor a Met student at her workplace. As one of the founding families of the Met, Brenda and her son had the opportunity to interview and help approve prospective teachers before the year began. They asked candidates what their interests were, and if they saw students as the priority in the school. This kind of involvement stands in stark contrast to Brenda's experience with her daughter's middle school, which gives Brenda and her husband one seven-minute slot per semester.

Though many parents cannot dedicate weekly hours to the Met because of various work and family obligations, they understand and respect their commitment to participate in the learning plan meetings and exhibitions. For many parents, the most dramatic moments occur when they participate in their children's exhibition panels. Though it is often difficult to get beyond the excitement of seeing their children's success, parents are learning to look critically at the work itself. Says one mother about her son's presentation skills, "I told him that he needed to make more eye contact, explain the steps clearly, and organize his thoughts. I told him it is important — you need to focus. When I gave him the feedback, I could read the look in his eyes: 'here she goes.' But I said it in a nice way. You gotta go easy on them, cause they're fragile and you could crack them. And it worked. The next time his presentation improved a lot."

To support parents even further in their development of critical assessment skills, the Met plans to hold exhibition training sessions for parents. The training will help parents learn to ask key questions, such as: How do your findings connect to other areas of your life? What is your documentation for your findings? How will you follow through with your LTI goals? How will you do this on time?

In the summer of 1998, advisors and parents will work together to develop activities such as a "parent-to-parent" program where all first year parents will buddy with a veteran parent. Other summer plans include designing training programs on conflict resolution and anger management so that parents understand better the Met's approach to communication with teens.

"When I come to school, it's like I'm going to my own home...it feels very comfortable and safe. It feels good."

— Sonia, Met student

"Suddenly I got it! I realized that the end product was nice, but the research was equally important. Here at the Met they care about how you got the product done."

— Peter, Met sophomore

How Good is Good?

As Met advisors, mentors, and parents gauge student performance, they repeatedly ask, "Is it good enough?" Because student work is not quantified by courses or credits at the Met, the school must use other methods to document what students accomplish with respect to academic and real-world standards. Portfolios, exhibitions, and narratives are the three main assessment tools.

Met student portfolios contain a comprehensive collection of their work, typically including final papers and drafts, photos, notes, videotapes, artwork, narrative reports and other assessments, and journal entries. Students begin accumulating portfolio materials from day one at the Met and continue to augment, organize, refine, and reflect upon the contents as they present portfolios to audiences in and outside of the school.

At least three times a year, each Met student presents an exhibition of project work and other learning. The exhibition takes place before a panel of teachers, parents, mentors, students, and other community members who know the student well or bring relevant expertise. Panelists evaluate the student's work and presentation skills against criteria pre-determined by the teacher and student, and against the standards of their own field.

Met staff videotape the exhibitions so that students can include tapes in their portfolios and can watch the videos to assess their presentations. "I watched all of my [videotaped] presentations and saw amazing improvement," says one student. "During the first one I was shy and quiet. My voice was soft, but now I know it was from lack of confidence in my project. The second was so much better. I was loud and confident about what I was saying. Even though I played my guitar and it was nothing big, I still played in front of strangers and I was proud of myself. During my last presentation, I wasn't scared at all, but I was a little unsure about what I was saying. My speaking was clear and I was able to answer most of the questions that were asked."

The Met reports student progress to parents in narrative form three times a year. Both the advisor and student write detailed evaluations of the student's goals, accomplishments, efforts on projects, and contributions to the Met community. Incorporating the responses of mentors, exhibition panelists and other staff, the narratives also provide direction for updating the student's individual learning plan.

"How good is good?" is a question that gets directed not only to students' work, but to the Met itself. Staff have put together a Met portfolio that provides basic information about the program, plus data addressed to the kinds of questions the Met asks about itself.

Sharing What Works

As a laboratory school for NUHS and a model school for the state of Rhode Island, the Met takes seriously its responsibility to share its work with fellow educators and students. In February 1998, the Met hosted its first "Design Studio" for 11 educators and students from the St. Louis Career Academy. The event lasted three days, with Met and Academy staff and student teams sharing ideas and strategies for teaching and learning.

Met Data

Met student scores on the Metropolitan Achievement Test (MAT–7): a state, standardized assessment

	Fall 1996	*Spring 1997*
Reading Mean Grade Level	6.8	8.2
Math Mean Grade Level	6.5	8.4

Met design studios are customized professional development seminars for visiting school teams. Prior to arrival, the team completes a "gap analysis," assessing progress and shortfalls against program goals. Additionally, the team selects one or more of six key design studio elements to study during the course of the studio.

The purpose of the design studio is to have participating schools identify their goals and create an action plan. Each design studio includes two essential components: 1) drafting a plan for the participating school; and 2) preparing a Met forum to address a pressing issue for Met staff and students at the time of the design studio.

The team from St. Louis chose to focus on three elements in their design studio sessions: authentic work, building a new school, and personalized learning. The team completed various pre-session assignments, including reading relevant newsletter articles and completing "gap analysis" worksheets about their school philosophy and goals. Team members kept journals, too, taking "journal breaks" throughout the three-day event.

The agenda for the St. Louis design studio included discussions, presentations, LTI site visits, shadowing of Met students and teachers, student exhibitions and forums, video and project work, survey taking, reading, and many after-hours conversations. The St. Louis team expressed great respect for the willingness of the Met staff to look openly at themselves and receive feedback from their visitors. In the end, the team left with a detailed action plan and time line for personalizing learning back at their school (see the St. Louis case study). A few weeks later, staff and students from the Met visited St. Louis for further consultation and conversation.

Looking Ahead

As the Met prepares for its third year, staff, students, and families face three important challenges: 1) "going deeper" intellectually and academically as they continue to learn in the context of internships, 2) sustaining the energy and intensity of the first two years, and 3) continuing to build the program one student at a time as the school grows larger.

The first challenge will be addressed as the Met always addresses issues of intellectual rigor and standards: by looking carefully at student work and generating standards from there. As for the second, the Met staff are a highly dedicated group. Their energy and commitment have brought impressive results in terms of student engagement and achievement. However, with long work days and weekends the rule among these staffers, the Met recognizes the importance of attending to adult needs in such a demanding environment.

As to the issue of scale, the Met now enrolls 100 students in the ninth and tenth grades, and will continue to grow by 50 students per year, until reaching a 900 student limit. To stay small and personal, the school plans to divide into nine "houses" or learning centers of 100 students each. Students will work in studio-style spaces rather than in classrooms and will have easy access to workplaces and other community sites. However, other scale-related challenges remain — in particular, the task of recruiting and training the large corps of mentors necessary to provide one-on-one

As a laboratory school for NUHS and a model school for the state of Rhode Island, the Met takes seriously its responsibility to share its work with fellow educators and students.

Design Studio Elements

- Assessment
- Authentic Work
- Family Involvement
- Personalized Learning
- School Community
- Creating a New School

"This year has changed my whole life, and through all the workshops I did, places I went, and my LTI, I have learned and grown so much. I am so proud of myself, who I turned out to be, and who I am becoming. Being at the Met has made me a person who can take control of my education."

— Celina, Met student

experiences for 900 students.

Meanwhile, the Met continues to offer a rich, personalized learning environment. Already it has had an enormous impact on the lives of many of its students. In the words of a Met sophomore:

"Education wasn't important [to me before] because I was never in school anyway. My parents went through so much with me. I was the one that caused the fights with the family, the anger and all the tears. . . I started to feel as if I were nothing. I detested that nauseating feeling. I knew I could change if I had help. The only fear I had was school. I was about to drop out, until a high school called "the Met" formed. As I attended the Met, I realized how much I've got going for myself. . . The Met helped me with the change I made in my life. The rest of my high school years I want to go out with a 'Bang!' What I mean is maintaining an exceptional performance, becoming the most professional young lady, having the most excellent writing, and speaking with the best of knowledge." ■

PRACTITIONER MATERIALS

The New Urban High School

BEST COPY AVAILABLE

Connecting Activities

CONNECTING ACTIVITIES

AT A GLANCE

Overview

Observation and Exploration

Autobiography

Guide to Student Projects

Workplace Issues

Connecting Activities for Work-Based Learning

Overview

THIS SECTION PRESENTS ACTIVITIES and routines for connecting school work with experience in the world. For convenience, we have organized these as a set of materials for a "seminar," by which we mean any context where students come together to reflect on their experience and their learning. The materials are adaptable to any such context — an academic class, an advisory group, or an internship seminar — allowing room for further refinement, elaboration, and changes to meet the needs of specific sites and situations.

In a health careers internship seminar, for example, the students may discuss such topics as age, gender, and racial discrimination; fears of working with the sick and the dead; fatigue on the job; and repetitive stress injuries. The teacher helps them focus on intellectual content and skills, too, pushing students to articulate their experience, expand their vocabulary, and generate projects that contribute to the workplace. Thus the seminar fulfills many functions: support, reflection, preparation for projects and presentations. Students learn about the workplace, expand their sense of self, and develop career awareness.

Such a seminar cannot be run out of a package. The curriculum is more like a flow of events than a fixed text. Yet there are rhythms, routines, and expected products: site observations, reflective papers, projects, autobiography, portfolio, exhibition. The curriculum takes shape from the students' experiences on site. The teacher acts as a "coach" rather than an "instructor," helping students make sense of their work. In the process, students develop and apply fundamental skills while completing authentic and purposeful tasks related to their real-world work.

In this section we present material for conducting four fundamental connecting activities:

- observation and exploration
- autobiography
- student projects
- addressing workplace issues

All of these activities are built on three pillars: writing and reflection, guiding questions, and real-world skills and understandings.

Writing to Learn

Here are some general reminders about writing to connect school and real-world experience.*

1. **Write often, for many purposes.** Students need to see purposeful writing as part of their daily routine. The journal is one way of addressing this need. It also serves as a spur to conversation, as a resource bank for project development, and as a place to record important thoughts, ideas, and reactions.

2. **Write in many forms.** The workplace calls for forms of writing unseen in classrooms, including memos, inventories, orders, requests, incident reports, and training manuals. But since the goal extends beyond mastery of "business English," the range should include free-writing, maps, webs, chronologies, narratives, interviews, dialogues, instructions, newsletter articles, scripts, autobiographical fragments, stories, and poems.

3. **Write for a variety of audiences.** One of the great advantages of work- and community-based programs is that they provide authentic audiences for student work: workplace colleagues, supervisors, clients, and the general public. Such audiences lend an air of interest and support that both inspires and validates student work.

4. **Share the writing.** Students develop as writers when they tune in to the work of their peers and see new possibilities for their own writing.

5. **Respond to writing as real and purposeful.** We can take the same approach to student writing that we take to the work of any writer: what is this piece about? What moves me? How is the piece put together? What questions does it raise? Students can learn to respond to each other's writing in this way, pointing out strengths and asking salient questions.

Guiding Questions

For these materials we have adopted five guiding questions, which are in turn based on the five "habits of mind" developed at Central Park East Secondary School (CPESS):

1. **Connections:** How are things, events, or people connected to each other?

2. **Perspective:** From whose viewpoint are we seeing, reading, or hearing? How does our view change when we put ourselves in someone else's shoes?

3. **Evidence:** How do we know what we know? What evidence supports the things that we say and the things that we hear?

4. **Speculation:** What if things were different? What are the alternatives?

5. **Significance:** What does it matter? What does it all mean? Who cares?

Together, these questions equip students with a powerful repertoire for learning from their work in the world. Students who habitually ask these questions, of their own work as well as that of others, are learning to use their minds well.

*These reminders are adapted from a fuller discussion in R. Riordan, "Hands On, Heads Up: Uncovering the Humanities in Work-Based Learning Programs," in A. Steinberg, *Real Learning, Real Work: School-to-Work as High School Reform* (Routledge, 1998).

Skills, Understandings, and Standards

As students observe and analyze their sites and reflect on their work, they develop skills and understandings for work, study, and citizenship, including the following:

1. Goal-setting and planning
2. Observation
3. Interviewing
4. Inquiry
5. Critical thinking
6. Mathematical reasoning
7. Teamwork
8. Presentation and exhibition
9. Self-assessment

These skills and processes are embedded in the seminar materials; they align well with those identified by the Secretary's Commission on Achieving Necessary Skills (SCANS) as integral to success in the 21st-century workplace.* ■

*See Glossary for a definition of SCANS. See also the discussion of curriculum standards in Integrated Curriculum Units: A Planning Guide for Teachers.

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Observation and Exploration*

Overview

Observation And Exploration

AT A GLANCE

- Overview
- Investigating Your Site
- Journal Exercises
- Site Photos
- The Interview: Tips and Techniques
- Charting Workplace Behaviors and Standards
- Three Site Essays
  - Site Essay I: Mission and Structure
  - Site Essay II: Learning at The Workplace
  - Site Essay III: Career Investigation

STUDENTS NEED TO BE GOOD OBSERVERS for several reasons. First, as teachers in work-based or community-service programs, we depend on them. They are the experts with respect to their sites. Second, careful observation is an essential skill in any context. Finally, careful observation connects to career awareness: students match their observations with their own developing sense of who they are, thereby addressing a critical question for all students in these programs: "Can I do this job and still be me?"

Notes on the Material

Investigating Your Site
This is a simple reminder to students of resources close at hand for learning more about their sites.

Journal Exercises
These short journal assignments focus on workplace observation, project development, and career exploration. The point is to use such assignments to set up routines for observation and reflection, and to build a resource bank for later projects and analysis.

Site Photos
In this activity students explore the workplace visually, organize their findings, and present their work to an audience.

The Interview: Tips and Techniques
Student interviews with site personnel give them a look at possible lives, afford practice in interview skills, and allow discussions of local history. Our approach is open-ended; we urge that students stay alert to surprises, letting the interview go where the interviewee takes it.

Charting Workplace Behaviors and Standards
This activity may be seen as preparation for the site essays, or as a career awareness exercise in itself.

Three Site Essays
These papers focus on the site from three perspectives: organizational structure and mission, workplace learning, and career investigation. The first two papers may be seen as preparatory to the third.

*The materials in this section are a collaborative effort of Hoover High School, CPESS, and NUHS staff.

Investigating Your Site

As you progress through your work/service experience, you will want to know more about your organization: its mission, clients, employees, products, and culture. Here are four strategies to help you find out more about your site:

1. **Read.** Ask your supervisor or colleagues for any written materials about the site. They may have materials that explain the organization's departments, programs, and mission.

2. **Ask Questions.** Don't hesitate to ask questions about workplace standards and expectations, how the organization works, or how your work connects to the organization's mission.

3. **Be Observant.** Pay attention to routines, communication styles, office attire, employee work habits, and any other patterns you may observe.

4. **Record Experiences.** Write in your journal about your experiences, including everyday events and situations as well as unusual occurrences or changes. Remember that your journal will be an important source for your site essays.

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Journal Exercises

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Setting Goals

Take a few moments to think and write about your goals and aspirations for your new work/service experience.

- What are your goals for your site experience?
- What kinds of things would you like to learn at your placement?
- What skills do you possess?
- What skills would you like to develop?
- What type of work environment would you most enjoy working in?
- What dreams and aspirations do you have for yourself as a worker, now and in the future?

Imaginary First Day

Imagine your first day at your new site. Use the questions below to help you get started thinking. Then, write! Don't worry about spelling and grammar for now. Get your ideas and imaginings down as quickly as you can!

- Where are you?
- Who is with you?
- What conversations might you have?
- What happens? What is the best thing that could happen? The worst thing?

Actual First Day

Write about your first day at your site. Include as many details as you can. Suggested questions:

- What did the workplace look like?
- Who did you meet? What were people doing?
- What happened? What was the best thing that happened? The worst thing?
- What is your sense of the atmosphere?
- How did you feel?

Compare your actual experience with your imaginary first day. What was as you imagined? What was different?

What Do You See? (building observation skills)

Find a busy place where you can write without attracting a lot of attention. Look around you and write down, as fast as you can, every action, person, and object you see. Try to be as detailed as possible. Note shapes, colors, and textures. Write quickly, and don't worry about spelling or grammar. Just try to write down everything you see!

Observing Your Site (an ongoing exercise)

Bring your journal to your site every day and record your observations. Keep your journal or a pad and pencil with you at all times to write down notes and

ideas while they are fresh in your mind. Try to reserve ten minutes at the end of your work time to write about the day's observations and activities.

Suggestions for writing:

- **Physical surroundings.** What does the site look and feel like today? What kind of room are you in? What is on the floor, ceiling, and walls? What equipment is in the room? What makes this place different from other places?
- **The people.** Who is working with or near you? How are people dressed? What are they doing? How are they behaving? How do they interact with each other and with you? What are they saying to each other?
- **The work.** What types of work are people doing right now? Does it seem meaningful to the people doing it? Do people seem trained and prepared to do the work? What is and is *not* challenging about the work?

Reminders for observation:

- **Details are important.** What seems minor or irrelevant at the moment may turn out to be useful later.
- **Trust your instincts.** If something stands out in your mind, for whatever reason, write it down.
- **Avoid judgments.** Record what you actually see and hear, as accurately as you can.
- **Write often.** Try to write as things are happening, or soon afterward, so that the observation is fresh.

How Do Organizations Work?

Every organization has a structure and "culture." This applies to your school as well as your site. As a warm-up exercise for Site Essay I: Mission and Organization, write an analysis of the structure and culture of your school.

- What is your school's purpose/mission?
- What is the structure: How are classes, departments, and activities related?
- What are the roles of students? teachers? administrators? others?
- What are the standards of conduct for students? for faculty?

Learning at Your Site (a periodic exercise)

Write about your work/service experience so far, touching on the topics below.

- What do you do at your site?
- Describe a recent incident when you learned something new at your site.
- Give examples of how your work connects with what you are learning in school.
- Who benefits from your work?
- What would you change about your experience?

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Thinking About "The Week That Was" (a periodic exercise)

Look over your journal entries from the past week.

- What strikes or surprises you about what you wrote?
- What feels or seems different to you now than it did then?
- What have you learned in the past week?

Looking for Project Ideas

Read over all of your journal entries about your work/service experience with an eye to developing a project that will benefit your site.

- What issues, needs, and lessons strike you as important?
- What have you found interesting about the site and the work?
- What would you like to know more about?

Make a list of these issues, needs, and ideas, and discuss them with your teacher, supervisor, and peers.

- What topics might lead to a good project?
- What are some projects that would address these topics and benefit the organization?

Recreating a Conversation

Part One:
Recall a recent important conversation you had at your site, and try to recreate it. Write in dialogue form, getting as close as you can to the exact words of the conversation.

Part Two:
Read over the conversation you have just written, and write an entry touching on these questions:

- What stands out?
- What was the mood of the conversation?
- What did you learn about yourself and the other person(s)?
- What was left unsaid?

Part Three (optional):
Did your conversation turn out differently than you had hoped? Do you wish you had — or had not — said something? Rewrite the conversation, altering it and adding to it so that it unfolds the way you would have liked it to.

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Site Photos

The goal of this project is to create a portrait of your work/service site in just five photographs. You will be photographer *and* storyteller.

Materials

Camera, film, foam core or other type of presentation board, glue, and markers.

Plan

Prepare a "wish list" of photos in advance. Think about what kinds of pictures will communicate the essence of your site.

Ideas for photos:

- your site supervisor or mentor
- other colleagues
- yourself working on a project, talking with colleagues, etc.
- an object or place that represents something important about your site: a tool, a workspace, a product, etc.

Be sure to obtain permission from your supervisor/mentor and other colleagues before taking photographs. Let them know when and why you are doing this project.

Photography Tips

- Avoid aiming the camera toward bright lights or sunny windows — the people and objects in front of the light will appear very dark.
- Pay attention to the camera angle: taking a picture from above can make a person look small and unimportant; shooting from below can make a person appear oversized and threatening.
- Take candid shots. Photos of people engaged in their work tell a richer story than posed shots.
- Take as many photos as you think necessary. Though you will ultimately choose five pictures, you may want to pick from a wide selection.

Create a Presentation Board

Select five photographs that most fully represent your site. Next, arrange the photos in a way that makes sense to you. Try several different arrangements, until you find one that seems to create the best overall portrait of the site. Finally, mount your photos on a presentation board. Write captions if you wish.

For the Audience

When viewing other students' presentation boards, ask yourself the following: What do these photographs convey about the site and the people in it?

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IN YOUR JOURNAL

Write a brief reflection on this photo project.

- Did anything surprise you as you took photos at your site?
- Did you see anything in a new way?
- Were there any missed opportunities — shots you thought about, but didn't get a chance to take?
- What have you learned in doing this project?

The Interview: Tips and Techniques

NOTES

You will have several opportunities to interview people during the year — for a newsletter article, a career investigation, or a project. You might interview site supervisors, colleagues, peers, and visitors to the site. One interview might serve as the basis for several different writings. Whatever the purpose, it is important to plan well, to listen well, and to follow up promptly.

Plan

1. Prepare a set of questions in advance. Think of questions that get at the heart of what you want to know. What information is most important to you?

2. See if you can tape-record the interview. Be sure to ask permission of the person you are recording.

3. If you can, arrange to conduct the interview in a comfortable, familiar setting.

During the Interview

1. Keep the interview open. Allow yourself to ask questions that come to mind during the interview. Even more important, be open to what the person wants to tell you. An answer that seems off the topic may lead to an absorbing personal story, a lesson in history, or a better understanding of the community.

2. Ask questions that require more than a one-word answer and that elicit stories. For example:
   - What do you remember about . . . ?
   - What stands out in your mind the most?
   - Tell me more about . . . .

IN YOUR JOURNAL

When you have finished an interview, reflect on it briefly in writing.

- What stories emerge from this interview?
- What is important about these stories?
- What moments in the interview stand out for you?
- What surprised you most about the interview?

After the Interview

1. As soon as possible after the interview, sit down with your notes (and tape if available) and expand on them. Write as complete an account as you can while the interview is still fresh.

2. Follow up on the interview with a phone call if you need clarification or have further questions.

Charting Workplace Behaviors and Standards

Every workplace expects its employees to exhibit certain skills and behaviors and to meet special standards. In this exercise, you will create a chart that assesses these features of your site. This chart can help you figure out what it takes to be successful at your workplace.

Skills, Standards, and Behaviors

The chart you design should include the skills, standards, personal qualities, and behaviors that you have witnessed at your site. It may also include qualities you believe the site lacks.

Examples of common workplace behaviors and standards include:

- **Standards of conduct**. Punctuality, reliability, cooperation with others, appropriate dress.
- **Personal qualities**. Friendliness, helpfulness, optimism, good use of time, teamwork, honesty.
- **Thinking skills**. Decision making, problem solving, creativity, ability to follow guidelines and directions.
- **Information and communication**. Speaking and listening effectively, collecting, using and sharing information.
- **Uses of technology**. Telephone and fax systems, computers, etc.
- **Basic skills**. Math, reading, writing, reasoning.

Assessment Scale

Create an assessment scale for each site feature (skills, standards, behaviors). Base your assessment on the level of activity necessary to do good work, rather than on the performance of individual workers.

Sample Chart

Workplace Behaviors, Skills, and Standards at My Site

Site Features	Present	Absent	Weak	Average	Strong
Teamwork	✓				✓
Punctuality	✓				✓
Professional dress	✓			✓	
Writing (memos, letters)	✓				✓
Word processing	✓				✓
Computer Skills		✓			
Bilingual (Spanish/English)		✓			

Remember, the features and scale will depend on your site.

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IN YOUR JOURNAL

Write a brief reflection on your chart.

- Where does your site excel, and where is it weak?
- What recommendations do you have for improvement?
- Do your site's standards and behaviors feel comfortable to you as a worker?

Site Essay I: Mission and Organization

NOTES

The purpose of this essay is to describe and analyze your site's mission and organizational structure. Write from your own perspective, using evidence to support your claims. Refer to journal entries, interviews, and site materials to develop your essay.

Sample Outline

1. Introduction

   Briefly describe your site's history and mission:

   - When and why was the site founded?
   - How has it grown and developed? (Give some significant moments in its history.)
   - What are the mission and goals of this site? What does it aim to accomplish?

2. Body

   Describe how your site carries out its mission:

   - How is the site structured?
   - How does the site accomplish its mission (give at least three pieces of evidence)?
   - What evidence, if any, indicates that the site is not fulfilling its mission?

3. Conclusion

   Assess how well your site carries out its goals:

   - Suggest some ways in which the site might improve.
   - What changes do you recommend?

4. Resource List

   List the sources used to complete this essay. Include persons, documents, books, videos, and other sources.

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Site Essay II: Learning at the Workplace

Write an essay about what you are learning at your site. Take some time to review your journal entries before you begin to write.

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Sample Outline

1. Introduction

   Briefly describe the following:
   - What do you do at your placement?
   - What are your learning goals for this experience?

2. Body

   Write about what you are learning, including examples:
   - A critical incident or important moment in your experience at your site
   - How you meet your goals
   - Experiences that illustrate what you are learning

3. Conclusion

   Discuss the following:
   - How your goals have developed in light of your experiences
   - How this learning affects you personally
   - How the learning affects your career goals

Site Essay III: Career Investigation

NOTES

One good way to explore a career or workplace is to take a close look at how people experience their jobs. For this essay, you will conduct at least two "informational interviews" with employees at your workplace. You will then compose an essay that addresses these questions:

- How did people come to work here?
- What do people do here?
- What does it take to work at this site?
- What do people say about the importance of their work?
- How has this investigation influenced my thinking about careers?

Refer to your interviews, Workplace Behaviors and Standards Chart, journal entries, Site Essays I and II, Site Photos, and other related activities to develop your essay.

The Informational Interview

Ask your supervisor to help you arrange interviews with employees in a variety of departments and positions. Before you conduct an interview, prepare a list of questions. Here are some questions you might ask:

- What are your job responsibilities? What are the responsibilities of your department?
- How does your work contribute to the mission of the company?
- Describe a typical day at your job.
- What types of decisions do you make?
- Do you work alone or as part of a team?
- What personal traits and skills are necessary for your job?
- What type of training does your job require?
- How and why did you decide to do this type of work?
- How are writing, mathematics, and/or the sciences used in your work?
- What do you like most (and least) about this job?
- What other kinds of jobs are available in your line of work? What about opportunity for advancement?

Remember, these are sample questions that can be altered to fit your specific needs. Also, be aware that new questions will come to mind as you do the interview.

IN YOUR JOURNAL

Write a brief reflection on your career investigation essay and activities.

- What are you learning about the career field(s) at your site?
- What are you learning about careers in general?
- How would it feel to pursue the work of your site in the future? Would you enjoy this kind of work?
- Do you like this work environment? How would it feel to go to this place daily?

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Assessment

Your career investigation essay will be assessed on the following criteria:

1. Observing the process
   - Interview at least two people at your site
   - Draw from a variety of sources to compose the essay (journal entries, chart, etc.)

2. Observing the guidelines
   - Style: word-processed or typed final draft; correct spelling and grammar
   - Cover page: include title, name, course name, date of submission
   - Final delivery: submit interview notes or transcripts with final essay

3. Meeting content standards
   - Investigation: analyze the responsibilities, behaviors, and opinions of the site's employees
   - Evidence: support your analysis with quotes and references to interviews
   - Reflection: take a thoughtful look at your own interests and feelings about this site and career field

NOTES

Autobiography

Overview

Autobiography
AT A GLANCE
- Overview
- Journal Exercises
- Artifacts
- Video Autobiography
- Group Mosaic
- The Autobiographical Essay

ALTHOUGH STUDENTS CONSTRUCT their identities day by day, they are not always aware that this is so. Autobiographical writing fosters that awareness. Moreover, as students make writer's choices, ask questions, and express their emerging values to an audience of peers, they touch the great and fundamental themes of the humanities. In this way, personal narrative always faces outward to the world of real persons and enduring human issues.

Notes on the Material

Journal Exercises
The implicit point of these short exercises is that students should do autobiographical writing regularly, thereby establishing a habit of personal reflection while constructing a resource bank for later projects.

Artifacts
This is both an autobiographical and a group-building exercise. A number of elaborations are possible. Students may choose to videotape their artifact presentations (see Video Autobiography below), or they may prepare displays of their artifacts for newsletter articles or other exhibitions.

Video Autobiography
In this exercise, students prepare a brief statement about themselves, present it for videotaping, view the finished product, and make connections between their work and that of other students.

Group Mosaic
This exercise provides a graphic representation of individuals forming a group. Students may take up to several weeks to create their tiles. They share their completed tiles in the group and put them together in a quilt-like display. For a more permanent display, use ¼" masonite instead of cardboard and coat the finished tiles with polyurethane or shellac.

The Autobiographical Essay
This writing draws upon and synthesizes all of the autobiographical work students have been doing. It deserves serious attention over time: students may spend weeks composing and rewriting various drafts of their autobiographies.

Journal Exercises

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Memories

For 15 minutes, write down, as quickly and as naturally as you can, all the different memories that come to mind. Let your mind roam through your past experiences — childhood, last year, last weekend, even yesterday.

Write freely, using any words that come to mind, in any form that seems natural to you. Don't worry about grammar or spelling for now. Just try to get as many memories on paper as possible.

A Single Memory

Part One:

Read over your "Memories" journal entry, thinking about the following questions:

- Which memory strikes you as especially powerful and significant?
- Was there a time when you experienced awe, or exhilaration?
- Is there a memory that is painful, or especially emotional?

Part Two:

Select one memory to write about. Try to recall as much as you can about this memory. Recreate the experience, capturing the feel and look of the time.

- Where was it? Who was there? What was happening?
- What were people doing, thinking, and feeling?
- What details stand out — sights, sounds, colors, smells, tastes?
- How did you feel then, and how do you feel about it now?
- Why did you select this memory to write about?

Wishes

Write down all the wishes and desires that come into your mind. Record every thought, no matter how wild or foolish. Write freely and steadily, without stopping to edit. See if you can come up with 30 wishes.

A Single Wish

Read over your "Wishes" journal entry. Choose one wish that appeals to you, and imagine that it has come true. Write down everything that happens when the wish is fulfilled. If you like, write this as a story.

- What happens?
- How are things different?
- How does your life change?

NOTES

Identity Moments

Write about an event or situation in your life that has influenced your sense of who you are. Write as quickly and freely as you can. Include as much detail as possible: Where did the event occur? Who was there? What did people say and do? How did you feel at the time, and how do you feel now?

Choose from one of the following topics, or make up one of your own:

- A time when you stood up for something you believed in
- A time when your view of the world — or yourself — changed
- A time when you felt really free
- A time when you broke the rules
- A time when you felt proud of who you are
- (Make up your own!)

A Turning Point

Write a description of a turning point in your life. Be as specific and detailed as you can.

- What led to this turning point?
- What happened?
- What changes resulted?
- When did you realize this was a turning point?

A Letter

Write a letter to someone you know — a member of your family, a friend, an acquaintance. Change the name if you like.

- Be specific. Refer to at least one incident, or situation, or conversation.
- Say something that you wouldn't ordinarily say to that person.
- Even though your letter may be fictional, give it some basis in reality.

"My First Job"

For 15 minutes, write about the first job you ever had.

Write as quickly and freely as you can, in whatever form you wish. Get as many of your thoughts and feelings on paper as you can. Include details: who, what, where, when, why, how.

Artifacts

Bring in three artifacts (e.g., photos, objects, mementos, letters) that are important to you, and present them to your group.

NOTES

Plan

The artifacts may come from home, school, your site, or anywhere else. When selecting artifacts, think about how they connect to you and your life, and why they are important to you.

Present

Students and teacher should take turns presenting their artifacts to the group. Use the following questions to guide your presentation:

- What is it?
- Where does it come from?
- Why is it important to me?

Video Autobiography

NOTES

The Video Autobiography is one way to introduce yourself to the group and work on your presentation skills. Prepare a one-minute statement about yourself, perform it for the video camera, and review the final product.

Prepare

Start by jotting down ideas. Here are some questions to reflect on:

- Who am I?
- What moments in my life have made me feel proud?
- What are my hopes and ambitions?
- What matters to me most in the world?
- In what ways have I changed and grown?

Once you put down some ideas, organize them into an outline — or compose a one-to-two page script if you prefer.

Practice

Take time to practice your presentation. You may perform it from memory or work from your notes. Try practicing in front of a mirror, or for friends and family. You may also want to tape-record yourself. Time your presentation, making sure that it lasts about a minute.

Present

If you have practiced your presentation, performing should come easily. Speak clearly and naturally. Look directly into the camera. As for clothing, wear a richly colored shirt or blouse without busy patterns or letters.

Review

Watch and discuss the finished video with your group.

Suggested questions:

- What struck you most about the presenter?
- What was the most powerful moment of the presentation?
- What more do you want to know about this person?

Tips for the Videographer

- Avoid taping in front of bright lights, sunny windows, or distracting objects and colors.
- Use the same background for all students.
- Using a tripod is easier than holding the camera by hand — and it produces steadier footage.

IN YOUR JOURNAL

Write a brief reflection on the video autobiography.

- What have you learned about your peers?
- What have you learned about yourself?
- What surprised you most about this experience?

Group Mosaic

Using a 12" x 12" square piece of heavy-duty poster board, design a "mosaic tile" that represents you. Members of the group will combine their tiles to form a Group Mosaic.

Plan

The design and content of your tile is up to you. You may choose to depict important people, events, or objects in your life; or you may represent your special skills, personal characteristics, dreams, or future plans. Your tile can display a single element that represents you, or, it may itself be a mini-mosaic — a combination of objects, people, and other items.

Create

Choose from a variety of media to create your tile:

- Awards: medals, ribbons, certificates
- Objects: mementos, souvenirs
- Artwork: drawings, photographs
- Text: names, short phrases, poems

Present

Take turns presenting your tiles to the group. Focus your presentation on the following:

- The meaning of the tile
- Why you chose to represent yourself this way
- What you learned in creating the tile

Create the Group Mosaic

Find a wall or bulletin board that will accommodate all the tiles. Tape or staple the tiles to the wall in a quilt-like display.

NOTES

IN YOUR JOURNAL

As you view the finished mosaic, write down some thoughts about it.

- What do we share as a group?
- How does your tile blend with and complement the others?
- What can we learn from each other?
- What can we accomplish together?

The Autobiographical Essay

NOTES

This essay draws on and blends together all of the autobiographical work you have been doing. More than a simple chronology, it is an opportunity to reflect on the ordinary and extraordinary events, people, and turning points of your life. It also invites you to look toward the future: your current directions, hopes, and dreams.

The Process

In writing this paper you will follow a process of multiple starts, drafts, and revisions. It will require serious thought over several weeks.

1. **Journal exercises**
   Over time, write at least four autobiographical journal entries (see Autobiography: Journal Exercises for suggestions).

2. **Time line**
   Complete a personal time line, from birth to the present. Include important events, decisions, and turning points, as well as ongoing situations.

3. **First draft**
   Refer to your time line and journal entries as you begin drafting your autobiography. Add any other autobiographical material that you wish.

4. **Sharing first drafts**
   Share your first draft with a small group of peers. Consider the following questions as you listen to the work of your peers:
   - What strikes me about this piece? What lines or images stand out?
   - What is this piece about? What are the important themes?
   - What more do I need to know as a reader?
   - What other suggestions do I have for the writer?

5. **Revision**
   Redraft your essay, keeping in mind the comments made by your response group, and submit it to a partner for further review. Depending on your schedule, you may want to set the work aside for a few days before coming back to it.

6. Assessment

Your autobiographical essay will be assessed on the following criteria:

a. Observing the process
- Writing and sharing journal entries
- Listening to questions and suggestions
- Helping other students with their work
- Drafting and re-drafting

b. Observing the guidelines
- Style: word-processed or typed final draft; correct spelling and grammar
- Cover page: include title, name, course name, date of submission
- Final delivery: submit all drafts with your final essay

c. Meeting content standards
- Selection: include important moments, persons, places, decisions, values
- Details: specify the what, when, where, who, how, and why
- Reflection: uncover the meaning and lessons of your story

NOTES

Guide to Student Projects*

Overview

Project Guide

AT A GLANCE

- Overview
- Projects: Who Does What?
- The Project-Based Learning Cycle
- The Project Journal
- Guidelines for the Framing Phase
- Guidelines for the Planning Phase
- Guidelines for the Action Phase
- Guidelines for the Communication Phase
- Project Proposal
- Project Proposal Modification
- Project Action Plan
- Project Schedule
- Weekly Planner
- Project Goal Setting
- Project Log
- Research Log
- Journal Exercises
- The Project Review Panel
- Project Assessment Guidelines
- Project Assessment Sheet for Panelists
- Tips for Successful Presentations and Exhibitions

THIS GUIDE OFFERS A FRAMEWORK and supporting materials for the creation, execution, and assessment of student projects. It can be adapted to guide the development of workplace projects, senior projects, class projects, and community development projects.

These materials assume certain conditions for project-based learning — in particular, the presence of advisors and mentors from the community. Not all programs have access to such resources. We encourage practitioners to adapt these materials as appropriate to their situation.

Learning Through Projects

Project-based learning integrates the best of vocational and academic teaching and learning. Well-conceived projects engage the heart, hands, and mind by encouraging students to create products of value to themselves and the community. Projects also challenge students to develop the independent learning skills necessary for success in college and the workplace. Moreover, when projects cut across disciplinary boundaries, they help students understand how subject areas interconnect.

The Project-Based Learning Cycle

The "project-based learning cycle" consists of four phases: framing, planning, action, and communication. At the heart of the cycle lies the student's reflective experience. It is the students, after all, who "make meaning" of all they are learning, doing, and discovering. These materials emphasize two important activities for student reflection:

1. **Journal writing.** Students should write regularly in a journal to develop a project narrative and document their discoveries. This guide offers exercises and guiding questions to help students reflect on their projects.

2. **Project review panels.** Midway through, and at the end of their projects, students will present their work to a panel of adults and peers. Panels generally consist of teacher/advisors, site supervisors or mentors, peers, family members, and professionals with relevant expertise. Panelists evaluate the project, offering advice and feedback to the student.

*Much of the material in this section is adapted from the Rindge School of Technical Arts and the Cambridge Rindge and Latin School in Cambridge, MA.

Project Contexts

Students may develop projects in an internship, a community-service placement, or elsewhere. Whatever the context, one aim is to help students understand the adult world of work and learning.

Workplace Projects

Workplace projects are done in connection with an internship or community-service placement.

Workplace projects:

- emanate from the student's work at the site
- benefit the organization
- allow students to contribute personally to the organization

Example from the Met, Providence, RI:

> Julia, an intern at a physical therapy clinic, worked with her mentor to gather background information on new clients. While conducting her research, Julia noticed that a number of patients suffered from fibromyalgia. She also discovered that there was little information available for lay persons about the causes, diagnosis, and treatment of this disease. For her project, Julia decided to develop a brochure that would make this information accessible to the clinic's visitors. She gathered information from medical journals and research studies, receiving help from her mentor to understand fully the medical terminology and biological processes. Toward the end of her project, Julia presented her tri-fold brochure to the clinic staff and held a discussion and demonstration of ways for patients to prevent strain injuries. Her brochure is now being distributed at the clinic.

Senior Projects

Senior projects give high school seniors an opportunity to develop a product around a personal, academic, or career-related interest.

Senior projects:

- bring a sense of purpose and focus to the senior year
- challenge seniors to embark on a complex independent research project
- help students make the transition from high school to the adult world

Example from the Cambridge Rindge and Latin High School, Cambridge, MA:

> As a senior with plans to go to art school, Mariel was finding it difficult to paint her self-portrait — a common portfolio requirement of fine arts programs. She wondered how other women artists experienced self-portraiture and decided to focus her senior project on this question.
>
> First, Mariel persuaded eight women artists in the area to create self-portraits in a variety of media, and then reflect on the process. Mariel held a brunch in which she videotaped each artist — including herself — talking about how it felt to do the self-portrait. She edited this videotape and presented it, along with her self-portrait and a paper she had written about her findings, to her review panel.

Community Development Projects

In community development projects, students work directly with organizations or interest groups on real-life projects.

Community development projects:

- teach students about the resources and needs of their community
- allow students to work alongside community members and professionals
- give students a voice on community issues
- encourage students to become active citizens
- build bridges between the school and the community

Example from the St. Louis Career Academy, St. Louis, MO:

> Brian and a team of five other Academy students developed a project in connection with "St. Louis 2004" — a city-wide initiative to improve the quality of life in St. Louis. Brian's team "adopted" a neighborhood, studying its history, resources, and needs. They organized their findings into an exhibit that chronicled the history of the neighborhood, suggested improvements in the area's public transportation system, and proposed the creation of a new community teen center. The team presented their findings to members of the St. Louis Regional Commerce and Growth Association.

Class Projects

Class projects take students beyond the walls of the classroom, giving them a context in which to apply the skills and knowledge they are developing in their course work.

Class projects:

- situate course content in real-world contexts
- integrate course content across academic and/or technical disciplines

Example from the William H. Turner Technical Arts High School, Miami, FL:

> Cesar, a junior in the Academy of Finance, worked on a project about housing in Miami. In his math class, Cesar studied mortgage financing and the computation of points and interest. Speakers from the Fannie Mae Foundation spoke to his class about the mortgage process and how the global economy affects prime interest rates. Using the skills he learned, Cesar charted and graphed the rise and fall of interest rates over the past 30 years. In science class he studied the causes of natural disasters and their effects on the local housing market and home insurance industry. Meanwhile, Cesar's social studies class organized a forum to discuss issues of homelessness, community development, and affordable housing in Miami. ■

Projects: Who Does What?

The following list describes the roles and responsibilities of the student, teacher/advisor, mentor, and panelist.

Students

1. Reflect
   - Keep a journal to reflect on your learning and discoveries
   - Write in the journal several times a week

2. Meet
   - Participate in classes, seminars, or group meetings as appropriate
   - Meet with mentors to get feedback and assistance

3. Create
   - Develop a product of value to you, the workplace, and/or the community

4. Document
   - Keep a written record of all research conducted for the project
   - Prepare a paper that reports your research and findings
   - Write a paper about the process of doing the project

5. Present
   - Prepare an oral presentation for a panel
   - Present your project at an exhibition for mentors, family, and members of the community

Teachers

1. Set Context
   - Provide a seminar or other reflective context to help students organize, document, and present their project work

2. Facilitate
   - Help students develop skills
   - Help students find mentors
   - Train and orient mentors
   - Help students organize project review panels

3. Celebrate
   - Organize an exhibition to celebrate completed student projects

4. Evaluate
   - Ask participants to evaluate and make suggestions for the future

What's a Good Project?
Consult the list below as you develop your projects.

A good project:

- engages your interests
- serves a real-life purpose
- connects you to adults and the community
- helps you learn how to solve problems and apply your learning
- challenges you to demonstrate what you have learned
- assumes a real audience that gives you expert feedback

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Mentors

1. Meet
   - Participate in orientation and training sessions as appropriate
   - Meet regularly with the student to give guidance and support
2. Assess
   - Participate in the student's project panel review
3. Celebrate
   - Attend an exhibition to celebrate students' work
4. Evaluate
   - Meet with school staff to assess the program and make suggestions

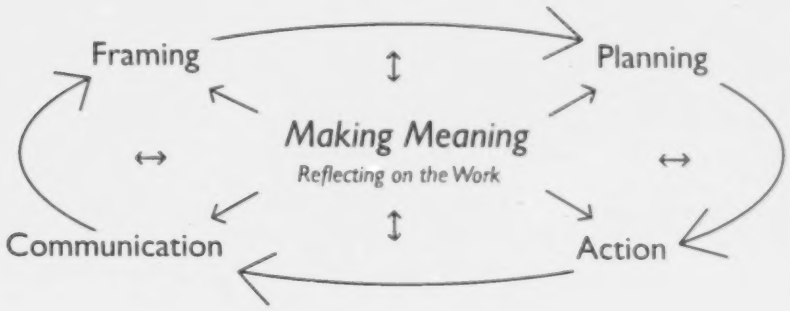
Project Panel Review Members

1. Assess
   - Participate in a student's project panel review
2. Celebrate
   - Attend an exhibition to celebrate students' work

The Project-Based Learning Cycle*

NOTES

Projects rarely proceed step-by-step. When faced with complex projects, people tend to approach their work in a cyclical fashion, going back and forth to different pieces again and again, applying problem-solving skills as needed. This is the "project-based learning cycle." It is composed of four phases: framing, planning, action, and communication. At the heart of the cycle lies your own experience and thinking. As you reflect on your work during the different phases of a project, you "make meaning" of all that you are learning, doing, and discovering.



Two types of reflective activities will help you to "make meaning" out of your project work:

1. **Journal Writing.** Writing in your journal several times a week will help you to capture and record your discoveries.

2. **Project Review Panels.** At various times you will present your work to a panel of adults and peers. Panels generally consist of teacher/advisors, site supervisor/mentors, peers, and professionals with relevant expertise. Family members may also serve on the panel. Panelists evaluate your presentation, offering you advice and feedback on your work.

*The project-based learning cycle is adapted from the Metroplitan Regional Career and Technical Center, Providence, RI.

The Project Journal

NOTES

Keeping a journal will help you record important questions, ideas, and discoveries as you develop your project.

What should I write in my journal?

- Project ideas, plans, reflections, questions
- Informal notes and bits of information
- Accounts of conversations with your mentor or others
- Things you are thinking about

When should I write?

- At least three or four times a week
- Early in the morning, end of the day, or any time
- Whenever you have problems to solve, decisions to make, etc.
- Whenever you need to think something out

How should I write?

- Quickly and freely, getting lots of ideas on paper
- In any form that makes sense to you
- In your own voice

Who will read my journal?

- Your project advisor will review your journal
- No one will read entries that you prefer to keep private
- You may be asked to share some journal entries with team members

Suggestions

- Date each entry and start each new entry on a new page
- Write often: regular writing is what makes a useful journal
- Whenever you can, write long enough to develop ideas fully

Guidelines for the Framing Phase

Framing is the first phase of a project, where you begin to focus on a topic and establish goals. You will probably reframe your project as you go along.

As you frame your project, you exercise several independent learning skills. The questions below will help you work on these skills. Use your journal to reflect on the questions that are relevant to you.

1. Identifying an issue or topic
   - What issues interest me, and why?
   - Why are these issues important, and to whom?
   - What issue do I most want to pursue, and why?

2. Envisioning a product
   - What kinds of products would address this issue?
   - Which of these products would be most meaningful or useful, and why?
   - How would this product relate to other work in the field?
   - What skills do I need to create this product?

3. Defining the scope of study
   - What problems/issues can this project realistically address?
   - Where can I go for the information and assistance I need?

4. Establishing goals and priorities
   - What are my most important project goals?
   - What are my project's milestones (e.g., research, presentation, product)?

5. Defining the criteria for success
   - How will I know if my project is successful?
   - Who will help me to assess the project, and how?

6. Personalizing and taking ownership
   - How will this project represent me as an individual?
   - What do I already know, assume, or imagine about this topic?
   - What skills and experience do I bring to this project?

Additional Questions for Reflection

- What have I learned so far about the skills and resources needed to frame a project?
- What do I want my final presentation to be like? What will I say? Who will be there, and how will they react?

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Guidelines for the Planning Phase

NOTES

In the planning phase you develop strategies and schedules for your project: a project proposal, research plan, action plan, and time line. Remember, planning is a process — you are likely to alter your plans as you encounter challenges and hit upon new discoveries.

As you plan your project, you exercise several independent learning skills. The questions below will help you work on these skills. Use your journal to reflect on the questions that are relevant to you.

1. Developing a research plan
   - What subjects do I need to explore and investigate?
   - What are some approaches to research and problem-solving?
   - How can I test my ideas and assumptions?
   - How will I collect and store information?

2. Identifying resources and contacts
   - Who could serve as a resource? mentor? advisor?
   - What kinds of expertise should I look for in a mentor?
   - What other local resources are available?

3. Developing an action plan
   - What are the primary activities for this project?
   - In what order should I carry out these activities?
   - How much time should I allot for each activity?

4. Managing time
   - Is my time line realistic?
   - How can I make sure I finish my activities on time?
   - Am I comfortable with the amount of time this project will take?

Additional Question for Reflection

- What do I need to work on in terms of my planning skills?

Guidelines for the Action Phase

In the action phase you carry out your project, using your time line as a guide. Do not hesitate to seek guidance and support when you are faced with a problem or challenge. Update your time line regularly to reflect changes or to set new milestones.

As you put your plan into action, you exercise several independent learning skills. The questions below will help you work on these skills. Use your journal to reflect on the questions that are relevant to you.

1. Conducting research
   - Am I getting the information that I need?
   - If not, what can I do to get it?
   - How should I record and interpret the information?

2. Managing time and resources
   - Am I using my time wisely?
   - What experts have I contacted? Do I need to contact more?
   - Have I tapped local sources of information, advice, and support?

3. Analyzing information
   - What am I learning about my project's topic?
   - Do my findings come from a variety of sources and media?
   - How can I best organize, analyze, and present my findings?

4. Analyzing the product
   - Does my product exhibit an understanding of the issue(s)?
   - Does my product solve a problem or fill a need?
   - How might my product be more meaningful?

5. Documenting my work
   - Am I accurately recording the steps and progress of my work?
   - How does my documentation help me think about the work?

Additional Question for Reflection

- What challenges and surprises have come up for me in doing this project?

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Guidelines for the Communication Phase

NOTES

Throughout the project cycle, you will communicate your ideas, findings, and products in various ways, ranging from proposals and journal entries, to final presentations and exhibitions. Be sure to get feedback and guidance from adults and peers as you go along.

As you communicate your findings, you exercise several independent learning skills. The questions below will help you work on these skills. Use your journal to reflect on the questions that are relevant to you.

1. Organizing the presentation
   - What are my most significant findings?
   - What evidence supports (or contradicts!) these findings?
   - How is my project meaningful to other people?
   - How does my project connect to the work of other people in this field?

2. Communicating through writing, speaking, and visual presentation
   - How does my product demonstrate my learning and understanding?
   - Who is my audience?
   - How can I best tell the "story" of this project to my audience?

3. Personalizing the learning
   - How is my project work meaningful to me?
   - What have I learned about myself as a learner and a worker?
   - How would I further explore this project/topic in the future?

4. Evaluating the project
   - How would I assess my project work?
   - What have I learned about doing projects?

Additional Questions for Reflection

- How did my ideas and approaches evolve over the course of the project?
- How does my work fit into a related career field?
- What feedback have I received from experts in the field? What do I agree/disagree with, and why?

Project Proposal

Here are some of the areas you should cover in your project proposal.

- Briefly describe your project idea.
- What subject(s) or topic(s) do you expect to learn about through your project?
- What skills and understandings will you develop and demonstrate?
- What kind of product do you envision — a research paper, a script, a brochure, an oral/visual presentation, a videotape?
- What kind of research do you intend to do — for example, read books and articles; conduct field observations; perform interviews?

  List the research sources you intend to use. For example, what books and articles will you read? What Internet resources will you consult? Whom will you interview? What will you observe?

- Name a person(s) with expertise in your area of interest who could serve as your mentor. If you do not yet know of a person, write down some ideas about how you might find a mentor.
- What do you hope your project will contribute to your school and/or community?
- What do you hope to learn about yourself?
- What most excites you about your proposed project?

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Project Proposal Modification

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Address these questions as you think about modifying your project proposal.

1. How do you wish to change your proposed project?
2. What is the purpose of these changes?
   a. How will these changes help you more fully explore your area of interest?
   b. How will these changes allow you to better demonstrate and represent your learning?
3. Have you discussed the proposed changes with others? What response have you received?
4. How will these changes affect your project time line?

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Project Action Plan

NOTES

An action plan gives a picture of all of the steps of your project from start to finish. You will probably need to revise your action plan as you go along.

Use the following as a guide to preparing an action plan.

1. **Project Overview:** Briefly describe your project.

2. **Source Material:**
   a. Identify the resources you will use for research (e.g., titles of books, videos, articles).
   b. Explain where and how you will find your source material.

3. **Interviews:**
   a. Identify whom you will interview and why.
   b. Give dates and times.
   c. How and when will you organize your interview material?

4. **Mentors:**
   a. Who will serve as your mentor(s) for the project?
   b. How will you stay in regular contact with your mentor(s)?
   c. When will you meet?

5. **The Product**
   a. Describe all the writing, designing, and constructing activities leading to the final product.
   b. How and when do you plan to accomplish these activities?

6. **Feedback**
   a. How do you plan to get feedback on your project work?
   b. Give approximate dates for feedback.

7. **Final Presentation/Exhibition**
   a. What will your final presentation look like?
   b. Who will serve on your project review panel(s)?

Project Schedule

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Make a schedule of the activities and tasks on your action plan. Give specific times and dates. Include all significant deadlines and milestones.

Name _____

Project _____

Activity	Start date	Completion date

Weekly Planner

Name _____

Project _____

Week _____

What I Plan to Do: (include all planned project activities, including research, group meetings, meetings with mentor, etc.)

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Project Goal Setting

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Name _____

Date _____

Project _____

For each question below, circle whether you are *beginning, continuing, or completing* the work.

1. What questions or concerns do you hope to address during this week? Is there something you would like to understand better by the end of the week?

   beginning *continuing* *completing*

2. How will you interact with your mentor this week? What will you be working on with your mentor?

   beginning *continuing* *completing*

3. What kind of research will you do this week?

   beginning *continuing* *completing*

4. What do you plan to design? draw? construct?

   beginning *continuing* *completing*

Project Log

Name _____

Project _____

Date	Time	Activity	Comments

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Research Log

NOTES

Name _____

Date _____

Project _____

1. Source

   a. Type (e.g., book, magazine, interview, computer software, Internet, videotape):

   b. Publication information, including date:

   c. How will this research be useful?

2. Source

   a. Type (e.g., book, magazine, interview, computer software, Internet, videotape):

   b. Publication information, including date:

   c. How will this research be useful?

Journal Exercises

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In a Nutshell

Part One:
State the importance or relevance of your project in just one sentence.

Part Two:
Write, in one sentence, the importance or relevance of something you have read, heard, or seen that is directly related to your project.

First Impressions

Write or list your immediate impressions of your project. These thoughts will help you to focus on the task at hand and to gauge your learning thus far.

Working Together

Part One:
Share your project work with a partner. Take turns talking to each other about your projects. Ask questions and give feedback. Work together to generate ideas, devise research strategies, and drum up new resources.

Part Two:
Take a few minutes to write down your thoughts and reactions from sharing your project work. Jot down any new ideas or questions.

Mentor Relationships

Write about your relationship with your project mentor.

- How has your mentor guided you in the evolution of your project?
- What are you learning as a result of working with your mentor?
- Is there anything more you need from your mentor that you haven't been able to obtain so far (be specific about time, materials, information, etc.)?

Research

Write about the resources (human, technical, community) that are proving most valuable to you as you work on your project.

- What challenges have come up in your research?
- What are you doing to overcome these challenges?

(continued on next page)

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Weekly Journal Exercise

Sit down with your journal at the end of each week to reflect on your project work. Here are some questions to consider:

- What happened in your project work this past week that really excited or interested you?
- What really frustrated you?
- What goal(s) did you set for yourself this week?
- Which of these goals did you meet or exceed?
- If you did something other than what you had planned, what did you do, and why?

The Project Review Panel

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Organizing a panel of adults and peers to review your work at the mid-point and end of your project will help you improve and reflect on your project. Your teacher/advisor can help arrange the time and place for your panel review.

Project panels serve a number of purposes:

- They provide a real audience for your work.
- They allow you to discuss your work with adults who know you and your project, and/or have expertise in your project field.
- They afford you feedback on the strengths of your work and on the aspects that need further development.

Who is on a Project Review Panel?

Panels usually consist of four to six participants, including teacher/advisors, peers, and mentors who know you and your work well, as well as adult experts in your project field. Parents may also serve on panels. Group project panels may be larger.

How a Project Review Panel Works

It is helpful for panel members to read any of your available inquiry, research, or reflection papers before coming to your review panel. Make sure to get these to your panel members well in advance.

The standard format for a panel review is as follows:

- Opening: introductions, review of project and presentation criteria
- Project presentation by student(s)
- Question and answer session
- Evaluation

The panel may be facilitated by a teacher/advisor or mentor and may last anywhere from 30 to 90 minutes.

Project Assessment Guidelines

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Your project panel will be evaluating your work and presentation based on four broad categories: Purpose, Findings, Reflections, and Communication. Below you will find key questions and performance criteria for each of these categories. While preparing your presentation, think about how and where you will address each of the categories below.

I. **Purpose:** Do you clearly state the purpose for doing this project, particularly in terms of its personal and social relevance?

Do you

- describe why and how you became interested in this topic and project?
- clarify the personal meaning of the project?
- try to identify those who could benefit from or be influenced by the work?

II. **Findings:** Have you arrived at a coherent set of findings?

Do you

- make clear what you learned about the topic or field of inquiry?
- describe how the work connects to other work within this field of inquiry or activity?
- identify new questions, ideas, or activities to pursue as a result of the work?

III. **Reflection:** Do you tell the story of the project and analyze what you learned?

Do you

- provide a coherent narrative of the project, including obstacles and surprises?
- report what you have learned about doing this kind of major, independent project?
- indicate changes in ways of thinking?
- assess your own strengths and shortcomings in carrying out the project?

IV. **Communication:** Do you present the work in a way that conveys its meaning and observes the conventions of written and oral communication?

Have you

- written the materials in a clear, concise, and well-organized manner?
- prepared a well-organized and thoughtful oral presentation and conveyed a sense of mastery of the material and awareness of audience?
- used supporting materials (e.g., visuals) to enhance the presentation?

Project Assessment Sheet for Panelists

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As you review the student's work, and as you listen to the presentation, think about the work in relation to four broad categories: Purpose, Findings, Reflection, and Communication.

Performance standards are listed below for each of the categories. Please use the rating scale provided.

I. **Purpose:** Has the student clearly stated the purpose for doing this project, particularly in terms of its personal and social relevance?

The student described how s/he became interested in the topic/project.

1	2	3	4
Exceeds	Meets	Approaches	Needs Attention

The student clarified the personal meaning of the project.

1	2	3	4
Exceeds	Meets	Approaches	Needs Attention

The student tried to identify those who could benefit from or be influenced by the work.

1	2	3	4
Exceeds	Meets	Approaches	Needs Attention

II. **Findings:** Has the student arrived at a coherent set of findings?

The student made clear what s/he learned about the field of inquiry.

1	2	3	4
Exceeds	Meets	Approaches	Needs Attention

The student described clearly how his/her work connects to the work of other people within this field of inquiry or activity.

1	2	3	4
Exceeds	Meets	Approaches	Needs Attention

The student identified new questions, ideas, or activities to pursue as a result of the work.

1	2	3	4
Exceeds	Meets	Approaches	Needs Attention

NOTES

III. Reflection: Has the student told the story of his/her project and analyzed what s/he learned?

The student provided a coherent narrative of the project, including obstacles and surprises.

1	2	3	4
Exceeds	Meets	Approaches	Needs Attention

The student reported what s/he learned about doing this kind of major independent project.

1	2	3	4
Exceeds	Meets	Approaches	Needs Attention

The student assessed his/her own strengths and shortcomings in carrying out the project.

1	2	3	4
Exceeds	Meets	Approaches	Needs Attention

IV. Communication: Has the student presented the work in a way that conveys its meaning and observes the conventions of written and oral communication?

The student has prepared the materials in a clear, concise, and well-organized manner.

1	2	3	4
Exceeds	Meets	Approaches	Needs Attention

The student gave a well-organized and thoughtful oral presentation, and conveyed a sense of mastery of the material and awareness of audience.

1	2	3	4
Exceeds	Meets	Approaches	Needs Attention

The student used supporting materials (e.g., visuals) that enhanced the presentation.

1	2	3	4
Exceeds	Meets	Approaches	Needs Attention

V. **Comments:** This space is for more general responses to the work. The questions below will guide the responses after the student presents. If you wish, you may use this space to make notes for the discussion.

1. What impresses you the most about this project? What do you see as the major strengths of the work?

2. What would strengthen the project?

3. (For expert panelists) How does the work of this project connect to other work in this field?

4. What would you suggest to the student who wants to pursue this work further?

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Tips for Successful Presentations

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Preparation

- Practice your presentation and know your subject well.
- Prepare handouts for your audience that highlight the main points of your presentation.
- Notify your review panel well in advance of the presentation.
- Send panelists a project summary and other written materials before they arrive.
- Allow ample time for presentation — remember to save time for discussion and evaluations.

Format

- Think "multimedia!" Use a variety of formats, including video images, slides, overheads, computer graphics, 3–D models, and 2–D presentation boards. Plan carefully to make sure you have all of the equipment you need.
- Use materials such as poster board, markers, colored paper, and cardboard to prepare "professional style" presentation boards.

Standards

- Work from the Project Assessment Guidelines, or from criteria developed by you and your teacher/advisor or mentor.
- Set high standards for your presentation: check all written work for grammar and spelling; create a clear graphic layout; and thoroughly label all products and exhibition boards.

Tips for Successful Exhibitions

- Make sure that your exhibition space is large enough.
- Invite family and peers. Translate invitations into appropriate languages and follow up with phone calls. Your teacher/advisor can help. Send the invitations out one month in advance to allow parents time to plan for the event.
- Generate lots of energy and enthusiasm about the event before it happens. Your exhibition is a celebration of all of the hard work that you have been doing!

Workplace Issues*

Overview

WHEN INTERACTING WITH OTHER PEOPLE around workplace issues, students find themselves dealing firsthand with dilemmas that they may only have encountered secondhand in the schoolroom. It is one thing to study the labor union movement in history class; it is another to have one's own paycheck suspended during a union strike or to get a pay raise as a result of union bargaining. It is one thing to read a story in which someone gets fired for speaking back to a boss and it is another to have an issue with your own boss, which you are afraid to raise, lest you get yourself fired.

The teacher (or any adult who acts as advisor, mentor, liaison, or coach) has a great opportunity and a great challenge in helping students address workplace issues. The opportunity lies in the immediacy of the situation. The student is face-to-face with the issues; any teaching that provides skill, perspective, insight, increased self-confidence, or relevant academic context will be met with interest. "How do I think about this? How do I manage it?" are the student's central questions. The teacher doesn't need to whip up engagement with the issue. Instead, the teacher responds to the engagement that is already there.

The challenge lies in the complexity of human interactions. Every interpersonal issue is different, because every person is different. There is no telling how any one situation will work out, and so there is no clean prescription for how to manage it. The teacher must be careful not to push the student into thinking about the situation in a particular way or into taking a particular action. Even when a student handles an issue with the utmost professionalism, there are no guarantees that it can be resolved to everyone's immediate satisfaction. Sometimes a happy resolution is reached, sometimes not. Sometimes the only way to deal with the student's dilemma is to move on to a different site.

However, the advantage of work-based learning is that almost all experience, positive or negative, has educational potential. The student is in the workplace, not just to learn the job, but to learn through the job. The workplace is a lab, or playing field for the practice of skills (including reflection) that will be called upon throughout one's life. Mistakes, fumbles, and falls are expected. It can be scary, confusing, hurtful, depressing. But it can also be exhilarating to work through the rough patches and to discover the potential for change and growth in working relationships.

Workplace Issues

AT A GLANCE

- Overview
- Addressing Workplace Issues
- Workplace Scenarios
- Role-Playing Scenarios
- Your Own Workplace Issues

*Contributed by Rosemary Sedgwick, with the support of Adobe Systems, Incorporated.

Workplace Issues as a Learning Process

People generally go through three stages in addressing a workplace issue:

Stage I: Reflecting on the issue

Stage II: Raising the issue with the other person

Stage III: Problem solving

Ideally, the teacher would use an issue described by a student as an opportunity to lead the student through the three stages. The teacher can either do this one-on-one with the student, or through a group discussion in a seminar, advisory, or classroom.

The role of the teacher is to

- Help the student clarify the issue and bring perspective to it
- Present the concepts and skills needed by the student in each stage
- Help the student figure out how to apply the concepts and skills in the workplace
- Give the student practice in the skills before taking them to the workplace
- Follow up after the workplace interaction

The difficulty is not so much in understanding how to address an issue, but in actually doing it. It is hard enough for grown adults to confront problems with each other; for adolescents it can be traumatic. Often the best the teacher can do is to confirm that there is no magic formula for making a difficult situation go away. The teacher can discuss what effective adults might do in the same situation, engage the student in a discussion of why certain actions tend to be more effective than others, and invite the student to try them. If the student is incapable or unwilling to try new behavior, at least she has been given some guidelines that might prove useful later on.

How This Section Is Structured

We do not intend here to tell teachers how to teach. We include a short crib sheet for each stage and leave it up to the teacher to decide how to present this material to the student. A set of workplace scenarios follows, showing how students and teachers might apply the guidelines on the crib sheets. The applications are meant only as illustrations and not as prescriptions for what students should say or do in corresponding situations.

Connecting Workplace Issues to Academic Subjects

History, social studies, literature, psychology, philosophy, civics, architecture, health sciences, and other fields may be implicated in the most common human interactions. Workplace issues provide teachers with many connecting strands into the academic disciplines. As part of Stage I: Reflecting on the Issue, it is assumed that teachers will discuss how students' workplace situations relate to broader questions considered in the humanities and sciences. Teachers can ask such questions as: "Would this issue have occurred in a 19th-century coal mine?

Why or why not?" Or, "What would Socrates have advised you to do in this situation?" Or, "How does the layout of the building help to create this problem?" The workplace scenarios described later in this section will help teachers to think about the types of issues that are likely to come up, and how they may prepare to use them in the academic curriculum. ■

Addressing Workplace Issues

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Stage I: Reflecting on the Issue

The goal at this stage is to get the facts on the table and to look at them carefully and with some emotional distance. This stage enables you to put the issue in context, to figure out how important it is, and to decide whether or not to risk raising the issue at the workplace.

Getting the Facts

First describe what has happened. Be specific. Give observable details, and weed out any judgments, assumptions, or interpretations.

Questions to consider:

- What exactly did you observe [the other person] doing or saying?
- When did this happen? Where?
- Who else observed it? What have they said or done about it?
- What have you done or said so far in the situation?

Guiding Questions*

Here are a set of guiding questions for you to discuss alone with your teacher, or with your teacher and a group of peers. You can refer to these questions when reflecting on a variety of workplace issues.

Connections

- How does this situation relate to other things going on at the job?
- What could influence the other person to behave in this way?
- What other situations in your life does this remind you of?
- What have you read that relates to this situation?

Perspective

- How do you think your perspective on the issue differs from [the other person's]?
- How do you think other people view the situation?

Evidence

- What evidence supports your perspective about the issue?

Speculation

- What will happen if things continue as they are now?
- How would you like to see things change?
- What different options do you have in the situation?
- What would be the effect of changing your behavior?

*These guiding questions are adapted from the Habits of Mind framework at Central Park East Secondary School, New York, NY.

Significance

- How does the issue affect other aspects of your life — at work and outside of work?
- How important is it to you to make a change in the situation?
- What effect would a change have on other people in the situation? On the work you do? On the organization as a whole?

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Stage II: Raising the Issue with the Other Person

The goal in this stage is to get ready to take action. By going through the preparation and script below, you should be able to confront the other person clearly and calmly. It is essential that your aim is to improve your working situation and not to complain about the other person's behavior.

Prepare

1. Discuss the situation with other people who will help you to think clearly about it.

2. Consider your options. Don't get fixed on one solution. Stay open to new ways of resolving the problem.

3. Practice what you will say. (Don't worry if you sound rehearsed when you raise the issue. That shows that you take it seriously and have been thinking about it carefully. After you have broached the subject, you will find yourself speaking more naturally.)

What to Say: Suggestions

1. Ask the other person when s/he would be willing to talk about a problem you are having on the job. Agree to a time and place.

2. Describe the situation or behavior that is a problem for you. Remember, this is your problem, not the other person's. The other person is behaving in a way that makes sense to him/her.

   Try to be:

   Direct. You don't need to "soften the blow." As long as your intention is to resolve the problem, and not to complain about the other person, you will not come across as being harsh or whiny.

   Specific. Stick to the facts. Exactly what has the person done that bothered you? When? Don't use general words like "typically . . . always . . . never."

   Non-judgmental. This is the hardest part. When you practice, you will notice your opinions creeping into your description. Get rid of them. Don't use words like "irresponsible . . . unfair . . . selfish . . . ." Don't make assumptions like "You don't trust me . . . ." Don't tell the other person what s/he thinks, as in "You think I don't know how to . . . ."

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Firsthand. Don't repeat what others have told you. Don't say, "And so-and-so thinks so, too!" You want to resolve the issue for yourself, not for other people.

3. Describe how the situation or behavior affects you and your work.
   This is where you get to describe your feelings, if those feelings are getting in the way of your work. If the situation is making you anxious, and you are making mistakes as a result, say so.

   Often, after you have gone through steps one and two, the other person will interrupt to give his or her point of view. That's fine. If that happens, you will automatically find yourself listening to the other person, which takes you into the problem-solving mode (next stage). You can always come back to this step at some point by asking if the other person is willing to hear your point of view.

4. Ask for the other person's response.
   You may not have to ask, but if you get the chance, it is good to show the other person that you are willing to hear what s/he has to say, even if you may not like what you hear.

Stage III: Problem Solving

The goal here is to learn how to work out an effective resolution to the issue.

After Raising the Issue

1. Listen carefully to the other person's point of view on the problem and paraphrase it, so that the other person knows that s/he has been heard and understood.

2. Ask if the other person has any ideas about resolving the issue. Do this first, before offering your own suggestions.

3. Offer your own ideas, if they are different from what has been suggested so far.

4. If you haven't reached an agreement, summarize both points of view.
   Ask which of the following steps the other person wants to take:
   - Continue to discuss ways of resolving the problem
   - Take some time to think about the issue and set another meeting date

If Resolution Isn't Reached in the First Meeting

The process is likely to take more than one talk with the other person. It may, in fact, include several repeats of stages one and two. As people confront their issues together, they become aware of new levels in their own thinking and feeling, which in turn leads them to new aspects of the issue and different ways of approaching it.

After an issue has been raised with another person, s/he has basically three choices:

1. Do nothing about it.

2. Take steps (including ignoring you) that don't resolve the issue, as far you're concerned.

3. Work with you to try to resolve it.

It is very difficult for a high school student to press an issue, if the other person adopts either of the first two choices. In that case, you may decide to ask your teacher to intervene.

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Workplace Scenarios

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Scenario I: Discord Between Supervisor and Intern

Annette is a student intern working in an elementary school classroom. She's been having a difficult time with her cooperating teacher. She feels that the teacher is picky, and she resents the way the teacher interferes when Annette tries to help youngsters find solutions to problems. When the teacher interrupts a negotiation Annette is conducting between two small boys and corrects her in front of the children, Annette loses her cool and walks away. "She'll never change," she says later of the teacher.

Stage I: Reflecting on the Issue — Questions for Annette

The Facts: What were you doing with the children when the teacher interrupted? How did the teacher interrupt? What did she say? What did the children do? What did you do?

Connections: What else has the teacher done that interferes with your work? What could lead her to interrupt? What need does she have in the situation? What is your need in the situation?

Perspective: How do you think discipline is viewed by the teacher? By the children?

Evidence: You feel that the teacher is "picky." What other evidence supports this judgment about the teacher?

Speculation: What will happen to your work with the children if things continue as they are between you and the teacher? What would you like the teacher to do or not do? How would your work be affected if the teacher made the change(s) you want? What could you do that would help the teacher to make the change(s)?

Significance: How does this issue affect your view of yourself as a student teacher? Your participation in the internship program? Other aspects of your life?

Stage II: Raising the Issue — Annette Speaks Up

1. "Ms. _____, when could we get some time to talk about a problem I am having in my work here?"

2. "On Tuesday, when I was talking to Marc and Dario about their argument, you came over and told them that they were not behaving well and that they would have to learn to share the crayons without fighting."

3. "When you interrupted my conversation with them, I felt that you weren't trusting me to know what to do. I'm afraid that I won't learn how to handle these situations myself if you interrupt me."

4. "I would like to know how you feel about what happened when you came over to speak to Marc and Dario."

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Stage III: Problem Solving — Annette Presses for Resolution

1. "You believe that it is best for me to learn about disciplining the children from watching you do it. And you are worried that if I am not as strict with the children as you are that they will get out of control."

2. "Can you think of a way that I can practice teaching a small group on my own, without having you worry about losing control?"

3. "I was thinking that I could take the art group as a sort of practice class on Tuesday mornings, if that would be okay with you. If you would let me work with them alone, then you and I could talk about how I did afterwards."

4. "I guess I would rather take the art group than be the recess monitor because I think I am good at designing art lessons that the children enjoy. If problems come up during art class, I could use the art lesson to get them back on track."

5. "Could we try letting me do the class on my own just once and see how it goes?"

6. "I see why next Tuesday wouldn't work. How about the following Tuesday?"

Scenario II: Boredom on the Job

John works as an intern in a real estate office. Since starting six weeks ago, all he has been allowed to do is routine office work like copying and filing. John finds this work boring, but every time he approaches his supervisor to ask for a more interesting assignment, she is either too busy to have a conversation with him, or she gives him more papers to file. John is afraid he's going to be stuck filing for the rest of the year. He's considering quitting his internship program.

Stage I: Reflecting on the Issue — Questions for John

The Facts: Give a typical schedule for your work shift. What exactly do you do? What equipment do you use? What papers do you file? When did you bring up the issue with your work supervisor? Have you brought it up more than once? What exactly did you say? What did she say? Are there any other people doing the same sorts of work you do? Who are they?

Connections: How do you interact with other people on the job? How does the work you do impact other employees? Customers? Your supervisor? How does an employee become a success in this business? What other businesses connect to the work done in your office?

Perspective: How do you think your supervisor sees your role in the office? What information was she given about the internship program? Is she aware that this is supposed to be a learning experience for you? What does she think you are capable of doing? What is she doing that keeps her so busy? What is your opinion of your supervisor? What skills and/or knowledge does she have that you would like to acquire?

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Evidence: What is the basis for your opinion about your supervisor? What has she said or done to other people that supports your view of the situation?

Speculation: What other tasks could you do in the office that would help either your supervisor or other employees? What are the problems they face in their jobs? How could you improve the filing system? The copy machine room? What aspects of the real estate business interest you? What would you like to learn there? What would be the best way to approach your supervisor with an idea for a work project you could do? What would happen in the department if you quit?

Significance: What is your job experience teaching you about your future as a worker? As a person in the real estate business? How would you feel — about yourself, about your role as a representative of the school — if you quit?

Stage II: Raising the Issue — John Speaks Up

1. "Ms. _____, I see how busy you are, but I need to talk to you about my work here. When would be a good time for you?"

2. "I have asked you a couple of times — once last week, and once the week before — if there are other jobs I could do in the office. Until now, we haven't been able to talk about it."

3. "I am very bored and I am thinking of quitting. But I would rather stay here and do some work that would be a learning experience for me and useful to you."

4. "I have some ideas about what I could do, but first I'd like to hear what you think."

Stage III: Problem Solving — John Suggests a Plan

1. "So this has been a very stressful time for you, and your business comes first. But you are willing to support me in my learning, if we can find a way to do that and still get the copying and filing done."

2. "Can you think of any projects I could do for you that would be helpful?"

3. "Well, here's what I thought maybe I could do. Instead of spending all my time filing and copying, I could spend half my time doing that and the other half doing some research on real estate markets — either in this area or some other area. What would be helpful for you to know? I could find out, for example, how many people have moved here from another part of the country, and why they moved."

4. "If you could show me how to use the listing program on the computer, I could learn to set up a database of new home buyers and the information I learn about them."

5. "Would you have a half hour sometime this week to help get me started?"

Role-Playing Scenarios

NOTES

The following workplace scenarios are for role-playing and discussion with other students in your group. In addressing these issues, try to follow the three stage approach: I. Reflecting on the issue, II. Raising the issue with the other person, III. Problem solving.

Work-Related Illness/Injury

Several weeks ago Carla was assigned to work in computer data entry. She was excited about the work when she started, but has recently begun experiencing severe pain and numbness in her middle and index fingers. Her doctor thinks she may be suffering from carpal tunnel syndrome and has advised her to lay off the computer for a while to see if the pain goes away. Carla is dedicated to doing a good job at work and isn't sure how to approach her supervisor with this news. She is also afraid that outside of data entry there may not be another job for her at the office.

Can't Get to Work on Time

Jesse has a problem getting to work on time. It isn't his fault exactly — when the bus comes late to pick him up, then he's late. Taking an earlier bus would get him to work an hour or more before he's scheduled to be there. He doesn't feel he should have to make this sacrifice simply because he's fifteen to twenty minutes late on some days. Jesse's co-workers see the situation somewhat differently. When Jesse is late, the whole team gets held up in their work. Jesse knows this and is aware a lot of friction is developing among the team members as a result of his lateness. Still, he believes it would be unfair for him to have to show up for work long before the others, have nothing to do once he gets there, and not get paid for his extra time.

Supervisor Behaves Inappropriately

Stephanie often overhears her supervisor talking with the office manager about the performance of several of her co-workers. Although she is intrigued by what she hears, Stephanie is also somewhat uncomfortable hearing this office gossip. Unfortunately, Stephanie's desk is just outside the door of her supervisor's office, and overhearing these conversations is unavoidable because the supervisor usually leaves her door open. Stephanie feels it is not her place to ask the supervisor to shut her office door. She also feels somewhat guilty — like she's done something wrong simply by overhearing the things she has. She's afraid to even bring up the subject with her supervisor, yet the longer the situation goes on, the worse she feels about her "eavesdropping."

Your Own Workplace Issues

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No one can predict exactly the kinds of issues you will encounter in the workplace. However, you can use the template that follows to guide you in handling the different issues that do come up. This is only a general outline. You may need to alter it in order to fit your specific issue.

1. In your journal, explain as clearly as possible the issue you are facing at your workplace.

2. Look over what you have written to get at the facts. Be as objective as possible. Try to weed out your personal opinions, judgments, assumptions, etc. Be mindful that this is from your perspective only. List the facts, one by one, until you have covered everything.

3. Ask yourself some questions:
   - How is this issue connected to other workplace issues?
   - How might this issue be viewed from the other person's side?
   - What evidence do I have to support my perspective on this issue?
   - What are some possible outcomes from addressing this problem?
   - Why is this issue important to me? to others? to the workplace?

4. Decide on a possible approach for solving this issue, and write a script detailing what you will say and do when you address the person.

5. List the possible responses the person may have when you bring this to his or her attention.

6. Think about how you will handle these responses.

7. Role-play with a partner. Practice addressing the issue. Refer to your script and possible responses as needed.

Work-Based Learning & Mentoring

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WBL & MENTORING

AT A GLANCE

Overview

Planning and Organizing a Mentoring Program

Developing a Corps of Mentors

Advice for Working With Mentors

What is a Good Mentor?

Steps to Ensure Learning at the Workplace

Tips for Mentors at the Workplace

Guiding Questions: A Primer for Mentors

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Work-Based Learning and Mentoring

Overview

What is Work-Based Learning?

WORK-BASED LEARNING can be defined broadly as any experience structured to bring together intellectual inquiry, real-world standards, and student engagement in meaningful tasks. While paid apprenticeships and long-term internships can be effective ways to introduce students to adult standards and adult work, they are not the only way. School-based enterprise, community-based projects, exploration and mapping of the community, and community service can serve a similar function for large numbers of students. In the end, all work-based learning should connect back to the classroom and enhance students' understanding of themselves and their community.

What is Mentoring?

When students are exposed to an adult environment, adult standards, and adult mentors, they change the way they behave and the way they look at their world. Students in school-to-work programs consistently report that their most significant learning experience has come through a relationship with a mentor. The materials in this section focus on the key role that mentors play in creating effective work-based learning experiences.

The bottom line is that mentors enhance the learning and help students connect what they learn in school to what they learn away from school. Mentors help students link what they accomplish with their hands to what they acquire through their minds and experience in their hearts.

Mentoring: Two Approaches

While many models for mentoring exist, there are essentially two approaches. The first is called "instrumental." The goal in this approach is to foster learning and competent workplace behavior. Instrumental mentoring might include advising interns on appropriate work attire, teaching phone etiquette, and helping interns understand the demands of the workplace. Most programs with an instrumental focus identify workplace readiness or, more broadly, career development as the primary goal.

The second broad approach to mentoring may be referred to as "developmental." Programs like Big Brothers/Big Sisters of America, for example, help build self-esteem and personal efficacy by pairing a young person with a caring adult who is viewed as a friend rather than an authority figure. In some cases, this relationship may provide the only stability in a young person's troubled life.

Because of limited resources and available volunteers, most mentor pairings in work-based learning programs place the site supervisor in the dual role of boss and mentor. Many experts would argue that the hierarchical supervisor/intern relationship makes developmental mentoring difficult to accomplish. However, high school students need and can benefit from developmental as well as instrumental mentoring. The challenge is to create a mentoring program that can do both. ■

Planning and Organizing a Mentoring Program

NOTES

The following questions can help organizers develop a successful mentoring program:

Goals and Outcomes

- Why do you want a mentoring program?
- What goals have you identified?
- What will it look like in daily practice?
- Does your overall plan meet participants' needs?

Mentor Selection and Matching

- What kinds of experience, position, or ability are you looking for?
- What is the best way to ensure successful pairings?

Key Program Elements

- Can you identify enough mentors to maintain a one-to-one ratio?
- If mentors are assigned to more than one student, what support will you provide to ensure success?
- How often will the mentors and students meet?
- Will students' mentors be their workplace supervisors as well? If so, how will you encourage a "developmental" relationship?

The Mentoring Process

- Will you prescribe certain activities for the mentors, or will you let them develop their own, or both?
- Do you want mentors to provide modeling and feedback (like a coach), or do you want them to give encouragement and support (like a companion or counselor)? Or do you want them to do both?
- Can you ask mentors to have contact with the mentees outside of the workplace? For what purposes?

Coordination and Training

- Whom can mentors call with concerns?
- Who will manage the day-to-day issues?
- How can you be sure that your mentors have the skills necessary to make the mentoring work?
- How will you know if students feel ready to accept mentoring from an adult?
- How will you support mentors in times of frustration or difficulty?

Evaluation

- How will you monitor the program?
- How will you tell whether your mentoring relationships are successful?
- How will mentors and students give feedback and evaluate the program?

Developing a Corps of Mentors

NOTES

Many schools, especially larger ones, are constantly looking for ways to find more mentors for their students. Below are some suggestions for developing and maintaining relationships with mentors.

Mentoring should not be a blind date.

Give students and adults opportunities to get to know one another before pairing them. Bring them together in settings where they can exchange ideas and share interests. Invite adults to be guest speakers, carry out mock interviews, advise student projects, and participate in portfolio review panels. Have students initiate these contacts as much as possible.

Mentors may come from many sources.

Many senior citizens have had interesting careers and rich lives and have time and resources to devote. School alumni often want to help their school beyond donating or raising money. Hoover High School, for example, has had excellent success drawing on its alumni association for mentors. Local universities and colleges may also supply mentors; many college organizations have community service requirements.

Mentoring doesn't always have to be one-on-one.

If your pool of mentors is small, try to match more than one student per mentor. It is better for some students to share a mentor than for some students to have no mentor at all. In fact, students may benefit from having a common mentor, or from having more than one mentor.

The community needs a reliable point of contact.

It is common for adults from the community to call or write schools about volunteering time. If possible, the school should assign a staff member to serve as a liaison, to monitor existing relationships, maintain a database of contact information, and promote the program.

Current mentors are good recruiters.

Mentors themselves are the best source of new mentors. In addition, the school should document successful relationships as a way to recruit prospective mentors.

Take affirmative steps for students with special needs.

Students with special needs often benefit the most from adult mentoring relationships. It is not necessarily best to pair these students with adults who have disabilities themselves — empathy is what matters. At the same time, information makes a difference. Some students have never had stable, trusting relationships with adults. Others may have citizenship concerns or other legal issues that make them nervous or self-protective around adults. Mentors need training to prepare them for these situations and help them develop stronger relationships with students with needs.

Develop partnerships.

Local employers and agencies often feel a strong obligation to help local schools. Mentor programs are far easier to develop when employers provide lists of prospective mentors, give workers time off or flexible time to meet with mentees, and recognize mentors through publications and special events.

Maintain relationships with mentors.

Recognize and celebrate mentor relationships through events like brunches, exhibitions, and performances. Gatherings of this kind can also be a powerful recruiting device. Be sure to thank mentors for participating, even when relationships don't work out. Take note when mentors stay a second semester, make a difference for a student, or recruit other mentors. Like the students they work with, mentors need to know that their efforts are recognized and appreciated.

Mentoring is a two-way relationship.

Make it clear to both student and mentor that they are responsible for making sure that each benefits from the relationship. Without that reciprocity, the relationship will not last. And the longer mentoring relationships last, the more energy can be invested in expanding the existing pool of mentors.

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Advice for Working with Mentors*

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The Five Best Ways to Communicate with Mentors

1. Get to know a second person at the worksite/organization
2. Drop-in on a casual basis to convey interest
3. Establish a steady pattern of e-mail communication
4. Encourage mentors to call you with any questions
5. Balance requests for time and attention with offers to help

The Four Worst Ways to Communicate with Mentors

1. Consistently rely on the mentee to be the messenger
2. Assume that the mentor can meet during school hours
3. Call to schedule a meeting on the same day you want to meet
4. Assume communication will happen naturally

Four Tips on Meeting with Mentors

1. Understand that mentors do not follow school schedules
2. Get to know the mentor's downtime and take advantage of it
3. Set up the next meeting *before* ending the present one
4. Establish objectives of the next meeting before it occurs

Five Ways to Ensure a Mentor's Good Performance

1. Have strong mentors train new mentors
2. Conduct effective orientation and check-in meetings; clarify expectations
3. Provide feedback on a consistent basis; don't wait until there is a problem
4. Be a good listener; check for signs of anxiety or confusion
5. Send mentors thank you notes and other tokens of appreciation

Three Ways to Assess the Learning Potential of a Workplace

1. Observe or shadow your students at work; see it through their eyes
2. Review job descriptions; interview the mentor
3. Participate in mini-internships and engage in work that students will be doing

*Adapted from the Metropolitan Regional Career and Technical Center, Providence, RI

What is a Good Mentor?*

Qualities of a Good Mentor

A good mentor:

- is respectful of others
- keeps a positive outlook on life
- enjoys working with young people
- likes or loves her work
- listens and communicates well
- stays flexible while keeping healthy boundaries
- has a capacity for sharing and empathy
- promotes the growth and development of the mentee
- has access to the people and resources of the organization and can make them available to the mentee
- sees the mentee as capable of making decisions and learning new things

The Most Important Responsibilities of a Mentor

- Take the time to structure the mentee's experience at the site
- Get to know the mentee well
- Spend time with the mentee and give encouragement
- Reveal oneself as a person, not just a worker
- Tolerate frustrating behavior from mentee and guide him/her toward maturity
- Understand the goals of the program and work toward them
- Communicate with teachers and coordinators from the partnering school(s)
- Assist the mentee in obtaining additional resources and professional contacts
- Model professional behavior and work habits

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*Adapted from the Metropolitan Regional Career and Technical Center, Providence, RI

Steps to Ensure Learning at the Workplace*

NOTES

Orient the student.

Before students begin working, conduct an orientation with a ratio of two-parts "need to know" and one-part "nice to know." It is important for students to learn the requirements of the job, how they will be evaluated, and the company's rules and regulations. Be sure that students get a "feel" for the site, meet other employees, see the lunch room, etc.

Establish a shared agreement/performance contract.

Both the mentor and the student should agree on the parameters of the job, the expected behavior, and the "rules of thumb." It is important to establish a rapport early on, not only to enhance communication, but to increase the learning potential.

Situate the student in authentic contexts.

Students learn more by working in a setting where they can participate fully. Designate a desk or space appropriate to the work the intern is doing. Stapling documents in an unused conference room will not provide an authentic work experience the way greeting clients at a reception desk will.

Demonstrate the task(s).

Demonstrate how to perform assigned tasks. Clarify the purpose of each task and its relation to the overall project. Help the student understand how his or her work fits into the organization as a whole.

Coach the student.

As interns begin to perform tasks on their own, they will likely need some feedback, but not necessarily direct intervention. At this point, the mentor becomes more of a coach who stands back and monitors the student's progress, suggesting alternatives when appropriate and encouraging the student to take on more responsibility. Through this diminishing support, or "scaffolding," the mentor becomes more a colleague than supervisor, so as to encourage the student to ask more questions and take on more tasks.

Observe and provide feedback.

As the intern becomes self-sufficient, refrain from giving feedback until the student completes a task. Ask the intern to do a self-assessment. Building on the student's own evaluation, make additional comments as appropriate.

Evaluate performance.

Intern and mentor should meet regularly to discuss progress and set goals. These meetings help students understand that real-world work is evaluated against standards of quality and that setting goals is essential to workplace success and lifelong learning.

*Adapted from "Training and Certifying On-the-Job Trainers," Diane Walter, *Technical Training*, March/April, Vol. 9, No. 2, 1998

Tips for Mentors at the Workplace*

NOTES

Keep a watchful eye.

Watch for signs of apathy, boredom, or indifference. Try to create opportunities and experiences that foster discovery of new ideas and development of new skills.

Ask open-ended questions.

Check periodically to see how well and how much the student is learning. Keep in mind, however, that little is gained by asking, "Are you learning?" Mentees may feel obligated to say yes because they don't want to sound negative or because they want to avoid a difficult conversation. Instead, ask open-ended questions, such as, "How would you describe the challenges in your job these last few weeks?" and listen for the evidence of learning.

Provide support without rescuing.

Mentors provide support, guidance, and encouragement as mentees master new skills. The question is: When does too much support become rescue, and when does too little support become neglect? Too often mentors say, "Let me just show you how to do that" when they should be asking, "What do you think you should do next?"

It takes patience and courage to stand back and let a student risk failure. However, the most significant growth happens through the discomfort of grappling with a new situation.

Avoid messages of perfection.

The greatest gift a mentor can give mentees is to be authentic. When you make a mistake, you can show how you learn from that mistake and are more competent as a result. Make sure the student sees and hears that you are not always an expert and that you are still a learner yourself.

*Adapted from "Mentoring With Bravery and Balance," Chip R. Bell, *Training and Development*, February, 1997

Guiding Questions: A Primer for Mentors*

NOTES

The five guiding questions below provide a framework for bringing intellectual rigor to the internship experience, both on the site and back at school — in discussions, assignments, exhibitions, group activities, and projects. We share these questions with you, along with some ideas as to how you might use them in your conversations with students.

Connections

How are things connected?
It is essential for students to be able to see how their work relates to their lives, the work of others, and broader purposes.

For example:

> You are an early childhood teacher, and you ask your student intern to assist with the cooking area. Explain the various objectives you have and the learning concepts involved — for instance, how the activity relates to the math you are teaching, or how the recipe relates to the goal of teaching the children how to follow directions. As the school year progresses and the student worker has come to understand the routines of the class and become familiar with the curriculum, you might ask the student to plan a lesson for a small group of students based on one of the curriculum themes.

Always ask students how what they are doing connects to what they are learning in school.

Perspective

What is the viewpoint?
History is most often written by the powerful. It is important to search out the stories that do not get told and to identify the perspective from which someone approaches a situation.

Students will be assigned to view your organization through the prism of your mission statement or philosophy. They will make observations about how you might revise your practice to adhere more closely to your mission.

For example:

> You need someone to shop for an elderly client, and you have decided to assign that task to the intern. Ask the intern to think about why it may be important for older people to have someone go to the store for them. What makes it impossible for them to shop for themselves? How would the intern feel if he were in this situation? Invite the intern to write a journal summary at the end of each session, including ideas for improving the process of shopping from the perspective of the client.

Ask students to explain their point of view and to consider how things look from another point of view.

*Developed in collaboration with Central Park East Secondary School, New York, NY

Evidence

What is the evidence?
In school, students need to develop the habit of giving evidence for any point they are trying to make. In the work environment they should be encouraged to do the same. In your conversations with them, ask them to elaborate on their thoughts and support their ideas. It is most important that you give students opportunities to practice this skill. Sometimes they have to be coaxed to expand their ideas. Don't be satisfied with one word responses.

For example:

> You are a daycare provider. A student tells you that she thinks a child is unable to learn the concept she is trying to teach. Ask her what evidence she has to support this conclusion. Ask her to develop further evidence by observing the child's behavior and describing it. See if she has any ideas as to how she might assist the child.

Ask students for evidence — and expect them to ask you for yours!

Speculation

What if things were different?
Ask students to consider different modes of organization, different ways of managing a place, or ways to spend time more efficiently. When you speak with them, ask them for their ideas. It is important for them to know that there is more than one way to accomplish a task and that their feedback is important to you. Again, don't be satisfied with one word responses!

For example:

> A student says that he is bored. After finding out what tasks he has accomplished, ask what other responsibilities he would like to assume. Ask him what other things he thinks need to be done.

Ask students to suggest new ways of doing things.

Significance

What difference does it make?
Students need to understand why the projects they are working on are significant. It is a powerful experience for them to see the importance of what they are doing, whether it is assisting with a young child's learning, a non-profit's fundraiser, or a business project. It makes a great impact on students if their efforts have contributed to the success of the organization or project.

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For example:

> You are responsible for updating a donor's mailing list and would like the student worker to help. Tell the student about the computer program you are using, the critical need for donors, the various types of benefactors who give to your site, and the ways your organization uses volunteers. Tell the student what the list will be used for. Ask for ideas for increasing the pool of donors.

Point out to students the significance of their contribution; ask them to reflect on the importance of their work for their own development.

Reminder: Learning Is the Goal!
A significant placement for a student is usually one in which these "guiding questions" are asked regularly. Students feel that they have had an impact, were asked for their ideas, and learned about themselves within the work environment.

Activities for Educators

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ACTIVITIES FOR EDUCATORS

AT A GLANCE

Overview

Three Easy Pieces

Integrated Curriculum Units:
A Planning Guide for Teachers

Activities for Educators

Overview

THESE ACTIVITIES FOCUS ON EDUCATORS as learners and designers, following from the principle that as a high performance workplace, the new urban high school ought to devote significant attention and staff time to research and development. The assumption here is that the best professional development occurs as teachers work together in design teams to create programs that respond to their own interests and meet local needs.*

Three Easy Pieces

These three exercises are designed to help educators:

- consider the attributes of significant learning
- see the potential of interest-based curriculum
- experience community exploration as a means for engaging students in rigorous intellectual activity.

The third exercise exposes participants to important elements of community-based inquiry: engagement through interest, real-life purpose, connection with the community, problem solving, presentation, and audience. As they experience these elements, they consider the value of a similar action-and-reflection approach for their students.

Integrated Curriculum Units: A Planning Guide for Teachers

This section consists of a planning guide for the creation of integrated curriculum units that link technical and academic instruction around a common theme. This guide is adapted and elaborated from the work of William H. Turner Technical Arts High School, Miami, FL. ■

*See the case studies of the Met and the St. Louis Career Academy in this volume for a description of an additional critical professional development process: the "design studio."

1. Reflecting on Significant Learning

Three Easy Pieces

AT A GLANCE

- Reflecting on Significant Learning
- Developing Projects from Interests and Hobbies
- Exploring the Community: the "Mall Walk"

This is a one-hour reflection and discussion exercise.

Journal Warm-Up (10 minutes)

Write a brief journal entry describing two significant learning experiences from your high school days: one in school, and one outside school.

Discuss (30 minutes)

- Break into groups of four to six persons.
- Introduce yourselves briefly, as appropriate.
- Share your significant learning experiences with the group.

Group task: during each description, listen for attributes of each learning experience.

- Who was there?
- Where did the experiences take place?
- What made these experiences significant?

Group questions, after everyone has shared:

- What characterizes the learning experiences in school?
- Out of school?
- Are there any significant differences?
- What can we say about the characteristics of a significant learning experience?
- What are the implications for our teaching?

Report (20 minutes)

Each group reports its findings.

2. Developing Projects from Interests and Hobbies

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Discuss (30 minutes)

In groups of four to six, each participant describes an interest or hobby. In each case, discuss: what skills are developed and employed in pursuit of this interest?

Plan (20 minutes)

Group task: develop a plan for a project-based curriculum unit that would incorporate the hobbies of each member of the group.

Prepare (10 minutes)

Using newsprint and any other means available, prepare a presentation of your project-based unit to the larger group.

Criteria:

- Each member of the group must participate in the presentation.
- Presentation time limit: one minute for each group.

Present (15 minutes)

Observe the criteria for participation; appoint a time-keeper. Enjoy!

Reflect and Discuss (15 minutes)

Do a quick journal writing, share in small groups, and report out.

- What happened in this exercise?
- What moments stand out?
- What surprised you?
- What, if anything, did you learn?
- What are the implications of this activity for your work with students?

Key points for discovery

1. Powerful teaching and learning can occur when teachers pursue their interests.

2. In interest-based projects, it is always possible to find connections to the academic and technical disciplines.

3. Exploring the Community: the "Mall Walk"

NOTES

This half-day exercise offers a quick, hands-on exposure to many aspects of project-based learning: observation, inquiry, collecting and analyzing data, writing and reflection, team-building, networking, exhibition, and multimedia studies. It also offers a look at an "all aspects of the industry" approach to inquiry — in this case, "all aspects of the mall." It is a simulation, yet real, representing the kind of longer-term study that can be done on a whole neighborhood or community.

Materials

Polaroid camera and film
Assorted paper (white and colored)
Scissors
Glue sticks and scotch tape
Magic markers, pencils, and colored pencils

Directions

In this activity you will be working with a team of four to six persons as investigative researchers, gathering information about a nearby mall. Each team will choose a different focus, ultimately allowing the group as a whole to put together a composite picture of the character, resources, and needs of the mall.

Team Inventory

- Introduce yourselves, as appropriate.
- Tell what skills you bring to the project.
- Write a list of the team's composite skills.

Choose (as a team)

Choose an aspect of mall life for exploration from the list below:

- Architecture
- Communications
- Culture
- Demography
- Entertainment
- Food
- Government
- Health
- Housing
- Retail and Business
- Street life
- Transportation

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Plan

- Develop a guiding question for your team inquiry.
- How will you investigate your aspect?
- Where will you go?
- What will you look for?
- To whom will you talk?
- How will you record information?
- What group roles have you defined?
- How will you present your data?
- What are your team's criteria for success in this project? (develop at least three)

Reflect

Keep a journal in which you reflect on your own learning in this exercise. As a first entry, write your current thoughts about this exercise.

- What do you think will happen?
- What do you hope to learn from the exercise?

Investigate

- Go to the mall!
- Conduct inquiry as planned.
- Perform tasks as assigned by the team.
- Be alert to surprises, new questions, new directions.

Synthesize and Prepare

Back at the home site, share findings within your team. Prepare a presentation of these findings. Presentation boards should include the following information at a minimum:

- A map showing the location of specific sites visited
- Five photographs of relevant scenes, and one photograph of the team
- A report of an interview with at least one person
- A quote (from a person, a sign, or printed material) that captures some essential feature of the mall related to your theme
- An artifact that represents some essential feature of the mall related to your theme
- A resume listing the skills the team employed in conducting this inquiry
- Optional: sketches, drawings, observations, ideas for new shops or services, future visions

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Present

Make your presentation to the large group.

Presentation criteria:

- Each member must participate in some way in the presentation.
- The presentation should last no more than three minutes.

Debrief

Take five minutes to think back over the whole experience and write a journal entry.

- What single moment stands out in your mind?
- What happened, and who was there?
- Why does this moment come to mind? What is its significance?

Discuss these journal entries with your team. Compare moments.

- What do these moments have in common?
- What surprises?
- What obstacles?
- What have you learned from doing this exercise?
- What did the presentation add to the experience?
- What is your most significant learning?
- How will you apply this learning to your work with students?

Report out the reflections of your team.

Sample Schedule: (8:30 a.m.–12:30 p.m.)

8:30–8:50	Break into teams Assess team strengths Choose a focus theme Devise research strategy Establish three criteria for excellence
8:50–10:30	Investigate the mall
10:30–11:00	Prepare a presentation
11:00–12:00	Give and observe presentations
12:00–12:30	Reflect and discuss

Integrated Curriculum Units: A Planning Guide for Teachers*

Overview

What is an Integrated Curriculum Unit (ICU)?

ICU's link technical and academic instruction around a common theme. An effective ICU aligns with program learning goals, addresses students' needs and interests, and prepares students for success in the world beyond school. ICU's take on increased meaning and power when they help students make connections to the adult world of work and learning.

Why ICU's?

- To help students and teachers make connections across disciplines
- To link academic and vocational content and skills
- To foster professional growth by encouraging teachers to go beyond the boundaries of their academic and technical fields
- To establish a culture of professional dialogue about student work
- To connect students and their work to the larger community
- To provide a thematic focus for a school, an academy, a school program, or a classroom

What does it take to build a successful ICU?

From teachers:

- Cooperation and teamwork
- Agreement on core learning goals
- Risk-taking and flexibility
- Focus on lifelong learning skills
- Willingness to forego some specific content goals
- Focus on the deeper structures and understandings of a discipline
- Peer observation and feedback
- Encouragement of student ownership

From the institution:

- Common planning time for teachers
- A common mission to prepare all students for college and career

*The ICU process is adapted from William H. Turner Technical Arts High School, Miami, FL.

ICU Guide

AT A GLANCE

- Overview
- Tips for Building ICU Teams
- Four Steps for Designing an ICU
- Step 1: Map Learning Goals
- Step 2: Brainstorm Generative Theme
- Step 3: Create ICU Activities, Web Diagram, and Time Line
- Step 4: Evaluate the ICU

- An intellectual focus apart from curricular disciplines
- A schedule that allows integrated project work and involvement with the world beyond school

What are Learning Goals?

Learning goals are the common core standards or discipline-specific standards that express what you want students to understand and be able to do as a result of their learning. In planning ICU's, teachers arrive at an understanding of their common learning goals and educate each other about how these core goals play out within their respective disciplines.

Common Core Learning Goals

Your school may already have a set of common core learning goals that runs across disciplines. The standards used by NUHS sites are described in the case studies in this volume. For example, Central Park East Secondary School expresses its common core learning goals as "Habits of Mind;" Hoover High School has developed a set of "Hoover Learner Outcomes;" and students at the Metropolitan Regional Career and Technical High School organize their learning plans to achieve "Met Learning Goals."

Discipline-Specific Learning Goals

Different academic and technical disciplines or courses may have specific standards and learning goals. In ICU's, discipline-specific learning goals should focus on the deeper structures and understandings of the discipline. Here are some examples of discipline-specific learning goals.

1. The New Standards developed by the National Center on Education and the Economy and the University of Pittsburgh delineate performance standards for applied learning in a variety of disciplines.

   Mathematics students will perform

   - Data study
   - Mathematical modeling of a physical system or phenomenon
   - Design of a physical structure
   - Management and planning analysis
   - Pure mathematics investigation
   - Historical research on a mathematical idea

   Science students will perform

   - Controlled experiments
   - Fieldwork
   - Design
   - Secondary research

2. Vito Perrone of the Harvard Graduate School of Education proposes learning goals for a secondary school history course as follows.*

   At the end of the class students will be able to

   - Use primary sources
   - Formulate hypotheses
   - Engage in systematic study
   - Be able to handle multiple points of view
   - Be close readers and active writers
   - Pose and solve problems
   - Understand that history is created by the decisions that people make and don't make
   - Understand the unfinished nature of democracy and the ongoing struggle for equity
   - Understand that each of us is a historian

3. Teachers in the Cambridge, MA, public schools developed a framework for English Language Arts that outlines the following policies to guide instruction:

   - **Integrated Language Arts:** All students will use language daily to broaden their understanding of themselves and the world, experiencing as they do so the connections among reading, writing, listening, and speaking.
   - **Reading:** Students will read daily for information, understanding, and pleasure, encountering materials and activities that are sensitive to individual needs and abilities.
   - **Writing:** Students will write daily for a variety of purposes and audiences, experimenting with a variety of genres, styles, and formats.
   - **Speaking and Listening:** Students will develop the ability to understand the spoken word and to express themselves thoughtfully and effectively in a variety of speaking and listening activities, matching style and responses to audience and purpose.
   - **Multiculturalism and Inclusiveness:** Students will experience the language arts as representing the literature, perspectives, and cultures of many nations and groups. They will develop respect for themselves and others as learners and people, through classroom experiences that foster self-awareness, celebrate diversity, and acknowledge our common humanity.
   - **Technology:** All students will explore and use a variety of technological resources for reading, writing, speaking, listening, and studying.
   - **Language Study:** Students will learn the formal conventions of speaking and writing, spelling, vocabulary, grammar, and usage through a language arts program that embraces a contextual approach, combined with focused lessons as needed. ■

*Vito Perrone, "How to Engage Students in Learning," *Educational Leadership*, February, 1994

Tips for Building ICU Teams

NOTES

The ICU process requires teachers to meet and plan together regularly. It calls upon the collective experience of team members and promotes individual and group ownership of the curriculum.

- Make the teams diverse across subject and technical areas, teaching styles, and interests.
- Generate clear ground rules for group process.
- Encourage active participation.
- Define, allocate, and rotate responsibility for group roles (e.g., facilitator, recorder, time-keeper).
- Take time to get to know each other's individual skills, interests, passions, and avocations.
- Assess and address group strengths and weaknesses.

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Four Steps for Designing an ICU

1. Map Learning Goals

- Identify learning goals
- Create learning goals map
- Share learning goals

2. Brainstorm Generative Theme

- Brainstorm and agree on a generative theme
- Brainstorm generative sub-themes
- Establish "essential questions"
- Set goals and objectives, planning backward

3. Create Activities, Web Diagram, and Time Line

- Generate integrated activities
- Generate course/discipline-specific activities
- Create a web diagram
- Make a time line

4. Evaluate the ICU

- Complete teacher ICU evaluation form
- Complete ICU skills evaluation form
- Distribute student ICU evaluation form
- Debrief with ICU team

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Step 1: Map Learning Goals

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Identify Learning Goals

- Review "What are Learning Goals?"
- List 5–15 learning goals, concepts, objectives, competencies, or outcomes for your particular discipline or course(s).

Create Learning Goals Map

- Hang a long piece of butcher block paper on the wall.
- Draw a two-column grid on the paper. Enter each course or discipline title in the left column and the corresponding learning goals in the right column.

Share Learning Goals

- Each teacher on the team explains his/her learning goals.
- Identify common themes, ideas, competencies, and student outcomes.
- Allow for questions, clarification, and general discussion.
- Clarify common core learning goals.

Step 2: Brainstorm Generative Theme

Brainstorm and Agree on a Generative Theme

- Brainstorm until you arrive at a generative theme that can accommodate the learning goals of the school and can be addressed through various disciplinary lenses.

Brainstorm Sub-Themes

- Brainstorm sub-themes that "unpack" the generative theme.

Establish "Essential Questions"

- Identify four to six "big questions" that relate to the generative theme, engage student interest, and address core learning goals.

Set Goals and Objectives, Planning Backwards

- Review the "essential questions."
- Develop a list of possible ICU outcomes, using the questions below as a guide.

At the completion of the ICU:

- What do you want students to understand?
- What do you want students to be able to do?
- What resources will students have used?
- In what ways will you have fostered student ownership?
- What interdisciplinary connections will you have made?
- What connections will students have made with the community?
- What role will community partners have played?

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What is a Generative Theme?

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Generative Themes

- are the focal point of the ICU
- cut across disciplines and may be addressed from a variety of disciplinary starting points
- lead to other themes and questions
- lend themselves to student investigation and projects
- link with student interests

Sample Generative Themes

- The Two-Edged Sword of Technology
- Men, Women, And Water
- The American Way Of Death And Dying
- What Counts? What do we measure and how do we measure it?
- What's Good to Eat?

Sample Generative Theme, Sub-Themes, and Essential Questions

Generative Theme

The Two-Edged Sword of Technology*

Generative Sub-Themes

- Equity issues in technology: Who benefits?
- The cutting edge: What's new in technology?
- Technology and the generations:
  Do young people adapt to new technologies better than adults?
- TLC: Care and maintenance of technology
- Technology and learning
- How good is good enough? Margins of error in technology
- Technology and work
- Technology and me
- Hidden technology in everyday life
- The human dimension: Adapting to technology
- The 8–track cassette: Change and obsolescence
- Technology and life support

Essential Questions

- Men and women as tool-makers: Does technology make us more human?
- What is the impact of technology on the individual and society?
- Why and how does technological change occur?
- Where is technology taking us — for better, or for worse?

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*_The Two-Edged Sword of Technology_ was the generative theme of Turner Technical Arts High School's first whole-school ICU. We use this theme in samples throughout the ICU Guide.

Sample Backward Planning

NOTES

At the Completion of the ICU

What do you want students to understand?

- Definitions of technology are linked to our concept of humanity.
- In defining technology we are defining the human condition.
- There are many different kinds of technology: cooking, time-keeping, transport, etc.
- Technologies evolve over time and are linked to culture, time, and place.
- There are cause and effect relationships in technological change.
- Every solution generates new problems and opportunities.
- Technological development is continuous and requires workers who can learn.
- There are human costs to technological development.
- Technology has the power both to elevate and to diminish the quality of life on our planet.

What do you want students to be able to do?

- Explain what is and what is not technology.
- Demonstrate good habits about the use of technology (use appropriate equipment, make ethical decisions, etc.).
- Prepare presentations of their thought and work.
- Help create or evaluate a new technology.
- Develop the habit of reading technical manuals.
- Use technology to access information.
- Use technology to organize and present knowledge.

Step 3: Create ICU Activities, Web Diagram, and Time Line

NOTES

Generate Integrated Activities

- Working together, review your learning goals, generative theme, and essential questions.
- Brainstorm integrated activities for students that address these goals and questions.
- Identify possible initiating, mid-point, and culminating activities.

Generate Course/Discipline-Specific Activities

- Working alone, think of activities for your classroom that relate to the generative theme and the integrated activities. Include the following components:
  - Learning goals/outcomes
  - SCANS or other common core standards
  - Materials, equipment, resources
  - Activities
  - Assessment
- Share your proposed activities with your team.
- Brainstorm projects that link two or more academic or technical areas.

Create a Web Diagram

- Attach a large piece of butcher block paper to the wall, and draw a web diagram similar to the example below.
- Insert your essential questions, core learning goals and skills, generative theme, integrated activities, and course/discipline-specific activities into the web diagram, drawing connections where appropriate.
- Refer to the web diagram to generate new connections and activities.
- Discuss ways in which the theme and activities might connect to the community.
- Further develop the initiating, mid-point, and culminating activities.
- Reflect on your generative theme:
  - Is it focused enough? Is it too focused?
  - Will students find it meaningful and accessible?
  - Is there room for student input?
  - How will it accommodate various disciplines?

(continued on next page)

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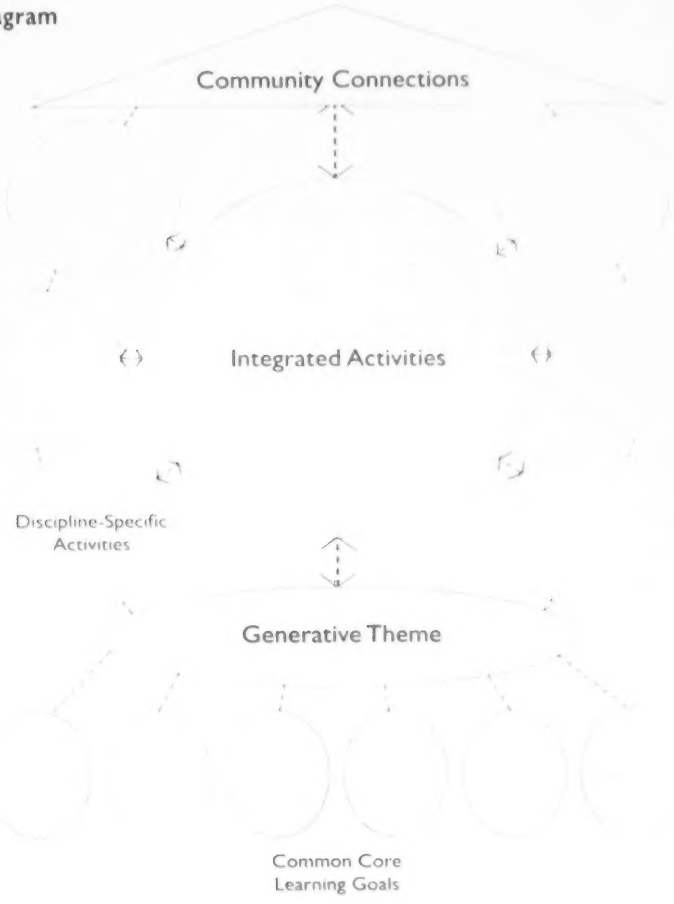
Web Diagram



Make a Time Line

- Decide on the final activities.
- Hang a piece of butcher block paper to create a time line:
  - Coordinate times and dates for activities.
  - Determine preparation time for mid-point and culminating activities.

Notes:

- The level of integration for the ICU activities will depend on the flexibility and scheduling of your school and teachers. Ideally, these activities take place during common time periods, arrived at through block scheduling or time specifically allotted to integrated study. Classes can also work independently on common activities, and then meet together at regular intervals.
- Remember to keep the ICU's open to student input. The more students can generate their own sub-themes and project ideas, the greater the chance for student engagement and learning.

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Sample Integrated Activities

- Hold a technology fair (e.g., Technology and Work, or Technology and the Individual).
- Create a Web site that focuses on technology issues.
- Write and produce an original drama that compares technology from two eras.
- Teach the teachers: students train teachers and parents in computer software.
- Organize a whole-school activity where students and teachers refrain from using any form of technology for a day.
- Analyze the impact of technology on the local environment.
- Research issues of wetland reclamation and water supply.
- Create a data bank of jobs for students.
- Plan and paint a technology mural.
- Organize a "techno music" concert.
- Technology vs. No Technology: hold various competitions (e.g., calculators vs. pencils).

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Sample Initiating, Mid-Point, and Culminating Activities

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Initiating Activities

1. Life Without Technology
   - Day 1: Identify technology used at school and home (teachers and students).
   - Day 2: Discuss technology and its uses.
   - Day 3: "A Day Without Technology." Entire school spends a day without technology, both at home and at school (no hot water, radio, lights, TV, phone, etc.).
   - Day 4: Discuss the previous day.

2. Technology vs. No Technology (or New vs. Old Technology)

   Students in each class are assigned a task. Half the students will use technology, the other half will not use technology.
   - Blowing-Up Balloons Race: machines vs. many workers
   - Math Contest: calculators vs. pencils
   - Writing Contest: keyboards vs. pencils

Mid-Point Activities

- Presentations to panels of class work and integrated projects
- Dress rehearsal of an original drama comparing technology from two eras
- Teach the teachers: students train teachers and parents in computer software

Culminating Activity

Technology Fair (open to school and larger community)
- Presentations to project panels
- Exhibition of class and integrated projects
- Performance of original drama

Sample Course/ Discipline-Specific Activities

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Business Technology

- Design and present the layout for a school office from the following time periods: 1920, 1970, 1998, and the future.
- Interview office workers about the technology they use, and their level of expertise.
- Write a resume for a worker in 1920, 1970, 1998, and the future.

Social Studies

- Evaluate the impact of technology on a particular industry over the past 25 years (e.g., transportation, communications, media).
- Hold a debate over technology in the courtroom (e.g., DNA evidence, TV trials).
- Interview parents and grandparents on technology in the home — present and past.

Language Arts

- Create an original drama comparing technologies from two eras.
- Write an essay on the benefits and drawbacks of technology in your life.
- Read and dramatize Vonnegut's "Harrison Bergeron."
- Write a story in which the hero invents and tests a new technology, and something unexpected happens!

Computer Studies

- Build a Web site on technology issues.
- Investigate the Internet as a source of "good" and "bad" information.
- Conduct a scavenger hunt on Internet newsgroups and mailing lists.

Physical Science and Science

- Monitor the media's portrayal of new technology.
- Investigate wetlands reclamation and beach preservation.
- Do a survey on office ergonomics: Health and safety in the high tech workplace.

Applied Math/Algebra I

- Perform math functions in software programs and video games.
- Noise pollution — graph rates of hearing loss in different neighborhoods and occupations.

Connecting With Community Partners

NOTES

Connecting ICU activities to the community can add meaning and authenticity to the curriculum and provide students with a wealth of resources — human and otherwise — with which to work. Work with your team to generate ideas for making connections to the community.

1. Brainstorm activities that use community services, businesses, and families.

2. Identify community resources, such as local professionals, businesses, organizations, or libraries that can assist students in their research and project work.

3. Assemble an "expert panel" of local professionals with experience related to the Generative Theme. Ask panelists to assist in reviewing student work.

4. Establish a network of "Critical Friends," including colleagues from other schools who can offer feedback on curriculum development and activities.

Step 4: Evaluate the ICU

Use the forms provided to reflect on your Integrated Curriculum Unit. Meet with your ICU planning team to discuss teacher and student feedback.

- Complete teacher ICU evaluation form.
- Complete ICU skills evaluation form.
- Distribute student ICU evaluation form.
- Debrief with ICU team.

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Teacher ICU Evaluation Form

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1. Thinking back, what two or three moments in the ICU process stand out for you? Why?

2. In what ways did your ICU team work together well? What were the biggest challenges?

3. What links did you make with other subject areas?

4. What links did you make with the community?

5. In your view, what aspects of the ICU engaged and inspired the students?

6. What would you do differently the next time?

7. What ideas and suggestions do you have for improving the ICU process?

ICU Skills Evaluation Form

List specific learning goals, skills, competencies, and outcomes addressed in the ICU. Rate each for effectiveness of student learning.

Skill	Effective				Not Effective
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5

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Student ICU Evaluation Form

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1. Did the ICU help you to make connections between classes and subject areas? Explain why or why not.

2. What moments stand out as most meaningful to you? Please explain why.

3. What skills have you developed in the course of this ICU?

4. What would you say is the major lesson you have learned about the theme of the ICU?

5. What suggestions do you have for the next ICU?

Glossary
Resources
Appendix

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Glossary*

All Aspects of Industry
This term denotes an approach to work-based learning that emphasizes broad understandings of the workplace. As defined in the Carl D. Perkins Vocational and Applied Technology Act, all aspects includes eight components that may be found in any given industry: planning, management, finances, technical and production skills, the underlying principles of technology, labor and community issues, health and safety issues, and environmental issues.

All Students
As defined in the School-to-Work Opportunities Act, "all students" means "both male and female students from a broad range of backgrounds and circumstances, including disadvantaged students, students with diverse racial, ethnic, or cultural backgrounds, American Indians, Alaska Natives, Native Hawaiians, students with disabilities, students with limited English proficiency, migrant children, school dropouts, and academically talented students."

Block Scheduling
Block scheduling is a means of reconfiguring the school day. The traditional school day is typically divided into six or seven classes, each lasting from 45 to 55 minutes. Blocked courses run for two or more continuous class periods (or even days) allowing students more time for laboratory or project-centered work, field trips or work-based learning, and special assemblies or speakers.

Career Academy
A career academy is typically a school-within-a-school that offers academic programs organized around broad career themes. Classroom instruction is often integrated with worksite learning, as academies try to equip students with the necessary skills for college and career. Staffed by interdisciplinary teams, academies usually offer classes that are block-scheduled and smaller than those in the typical high school. This smaller scale allows for a personalized approach and helps build a sense of community. Business partners often assist in planning academy curricula by making suggestions about program structure, providing mentors and speakers, and hosting field trips. Academy students may take on internships related to their field of study, both in the summer and during the school year.

Career Exploration
Career exploration provides in-depth exposure to career options for students. Activities may include the study of career opportunities in particular fields, review of local labor market information, job shadows, workplace interviews, and writing individual learning plans that dovetail with career interests. Ideally, career exploration becomes a lifelong process of matching personal goals with career opportunities.

Connecting Activities
Connecting activities help students link learning at school and at work. These activities may include

- matching students with work-based opportunities;

*Adapted from "School-to-Work Glossary of Terms," published by the National School-to-Work Office, Washington, DC, July 1996.

- using school personnel as liaisons between educators, businesses, parents, and community partners;
- helping employers and educators design comprehensive school-to-work systems;
- providing technical assistance to help teachers integrate school- and work-based learning as well as academic and occupational subject matter;
- encouraging business involvement in school and work-based activities;
- helping school-to-work completers find appropriate work, continue their education, and link up to community services as appropriate; and
- assessing post-program outcomes, particularly with reference to selected populations.

Contextual Learning
Contextual learning enables students to test academic theories via tangible, real-world applications. Stressing the development of "authentic" problem-solving skills, contextual learning is designed to blend teaching methods, content, and situations, allowing students to acquire knowledge in close relationship with actual experience.

High Performance Workplace
A high performance workplace employs sophisticated, technically advanced production techniques. Workers in this type of workplace exhibit the ability to learn on the job, adapt to rapidly changing technology, and work in teams to solve problems.

Integrated Curriculum
A curriculum is integrated when academic and occupational or career subject matter — normally offered in separate courses — are taught in a manner that emphasizes relationships among the disciplines. Such integration may range from the simple introduction of academics into traditional occupational courses, to comprehensive programs that organize all instruction around career themes.

Internships
Internships are situations where students work for an employer for a specified period of time to experience the world of work and to learn about a particular industry or occupation. Students' workplace activities may include special projects, a sample of tasks from different jobs, or tasks from a single occupation. The program may or may not offer financial compensation.

Job Shadowing
Job shadowing is a career exploration activity in which a student follows an employee at a firm for one or more days to learn about a particular occupation or industry. Job shadowing may help students explore a range of career objectives and select a career major for high school or college.

Mentor
A workplace mentor is an employee or other individual, approved by the employer at the workplace and the school, who instructs the student, critiques the student's workplace performance, challenges him or her to perform well, and works in consultation with the student's teachers and advisors.

On-the-Job Training
On-the-job training is hands-on training in specific occupational skills that students receive as part of their workplace experiences.

Portfolio
A portfolio is a collection of work that documents a student's educational experiences and performance over time. It typically includes a range of materials (e.g., writings, drawings, photographs of projects, evaluations) selected by the student. A brief introduction and summary statement usually describes how the portfolio was assembled and what was learned in the process. Portfolios can serve a variety of purposes in the classroom, such as

- increase student learning opportunities,
- help students demonstrate a wide variety of skills,
- help students recognize their own academic growth, and
- teach students to take greater responsibility for their own learning and development.

The portfolio process provides an alternative means of observing and reporting students' cognitive and academic progress, helps drive instructional improvement, and fosters professional development by encouraging teachers to look collaboratively at students' work.

Reflection
Reflection, literally, means thinking about one's life and work. Carried out through journals, discussion, projects, and other means, reflection is a key connecting activity. Through reflection, students connect lessons at work with lessons at school, assess the significance of their learning, develop new understandings, and connect the learning with their evolving career and personal goals.

SCANS (Secretary's Commission on Achieving Necessary Skills)
In a 1991 report, this federal commission identified three foundation skills and five workplace competencies necessary for work readiness in any occupational area.

The workplace competencies include

- Resources: allocating time, money, materials, space, and staff
- Interpersonal Skills: working on teams, teaching others, serving customers, leading, negotiating, and working well with people from culturally diverse backgrounds
- Information: acquiring and evaluating data, organizing and maintaining files, interpreting and communicating, and using computers to process information
- Systems: understanding social, organizational, and technological systems, monitoring and correcting performance, and designing or improving systems
- Technology: selecting equipment and tools, applying technology to specific tasks, and maintaining and troubleshooting technologies

The foundation skills include

- Basic Skills: reading, writing, arithmetic and mathematics, speaking, and listening
- Thinking Skills: thinking creatively, making decisions, solving problems, seeing things in the mind's eye, knowing how to learn, and reasoning

- Personal Qualities: individual responsibility, self-esteem, sociability, self-management, integrity

School-Based Enterprise
Entrepreneurial projects provide opportunities for school-age youth to assess, design, and operate business and community-service activities. In a school-based enterprise, students produce goods or services as part of their school program. Such projects often involve the sale of goods for use by others.

School-to-Work Opportunities Program
As defined in the School-to-Work Opportunities Act, the components of a "School-to-Work Opportunities Program" include school-based learning, work-based learning, and connecting activities. Such programs also incorporate the following attributes:

- integrated school-based and work-based learning that integrates academic and occupational learning,
- links between secondary and post-secondary education,
- the opportunity for participating students to complete a career major,
- provision of a strong experience in and understanding of all aspects of the industry a student is preparing to enter, and
- equal access for students to a full range of program components and activities, such as recruitment, enrollment, and placement.

Service Learning
Service learning combines community service with a structured school-based opportunity for reflection, emphasizing the connections between service experiences and academic learning. Although service-learning activities vary by educational purpose, most programs balance students' need to learn with recipients' need for service. While addressing local needs, students acquire skills and knowledge, achieve personal satisfaction, and practice civic responsibility. Service learning and work-based learning may overlap, as when a student does an internship in a non-profit community-service organization.

Work-Based Learning
Work-based learning denotes a range of learning activities that involve work experience or connect classroom learning to the world of work. At its most comprehensive, work-based learning fully integrates academic and occupational curriculum with worksite experience.

Resources

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Film about Central Park East Secondary School
220 minutes
Zipporah Films
1 Richdale Avenue, Unit 4
Cambridge, MA 02140

Graduation by Portfolio: Performance-Based Assessment at Central Park East Secondary School
50 minutes
The Center for Collaborative Education
1573 Madison Avenue, Room 201
New York, NY 10029
(212) 348-7821

Projects for School and Work: Meeting the Standards. Cornell Youth and Work Program
13 minutes
Cornell University, Media Services Resource Center
7 Cornell Business & Technology Park
Ithaca, NY 14850
(607) 255-2080 - T
(607) 255-9946 - F
Dist_Center@cce.cornell.edu

School-to-Careers: Connecting Youth to the Future (1995)
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The Six Elements of School-to-Work Reform

The Office of Vocational and Adult Education of the U. S. Department of Education has articulated six essential elements of school-to-work reform. The six elements are listed in the first column below, followed by features one might see in a program that successfully incorporates a given element. The second column gives examples of these features from the New Urban High School sites; the third lists key diagnostic questions for each feature.

1. Integration of Vocational and Academic Curriculum	Examples from the NUHS Project	Key Questions for Educators
Common planning time for teachers	St. Louis teams meet during students' computer-based learning time CPESS staff meet weekly while students are in community-service placements CVCA teams meet for 90 minutes weekly	Do teachers have regularly scheduled time to develop curriculum, discuss students, and plan activities together? Do meetings focus on looking at student work, planning curriculum, and coordinating assessment?
Hands-on learning	CVCA interns work on United Airlines reservations system at airport Hoover Project X students apply for funds, develop authentic community projects Turner health interns work on real tasks at hospital School-based enterprises, e.g., Hoover Cybercafe, CVCA Beauty Salon, Turner Horticulture business	Do internship placements offer opportunities to work directly with equipment, software, projects, etc.? Do students engage in hands-on learning in the classroom?
Common core goals across curriculum	Hoover Learner Outcomes CPESS Habits of Mind Met Learning Goals Turner Two for One diploma, SCANS competencies	Do school standards combine academic and vocational skills? Can students articulate these standards? Is student work assessed according to the standards?
Elimination of tracking	Hoover, CVCA, Turner: untracked mini-schools, academies, coalitions, or strands St. Louis: heterogeneous learning groups The Met: one student at a time CPESS: untracked	Do all students receive preparation for college and career (no students perceived as "non-college" bound?) Are all students getting high quality educational opportunities?

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2. Internships and Other Work-based Learning	Examples from the NUHS Project	Key Questions for Educators
Integral to school program	Met internships central to each student's learning plan All CPESS students do community service and internships All St. Louis sophomores do a four-week internship at a hospital Turner and CVCA academies create school-based enterprises	Does your structure enable/require all students to participate in internships, community-service placements, or other work-based learning? Do you provide support services to include all students in internships and other work-based learning?
Instruction in all aspects of the industry (AAI)	CVCA and Turner school-based enterprises stress entrepreneurial skills Hoover strands explore community needs CPESS students apply habits of mind to inquire about their placement's industry	Does the school bring an intellectual framework to work-based learning? Is AAI part of the curriculum planning process in designing work-based learning? Do work-based learning experiences encourage reflection on different industry aspects?
Reflective activities for students: workplace experience as text	All NUHS sites: learning journals, exhibitions CPESS: Internship Portfolio, advisory, Mt. Sinai Health Careers Seminar Hoover: portfolios that require students to relate their work to HLO's The Met: portfolios, advisory St. Louis: advisory	Can students and teachers articulate the connection between workplace and classroom? Do students have daily opportunities to reflect on their experiences and learning? Do students keep journals? Do staff read and respond to them? Is student reflection a part of the assessment process?
Student projects contribute to the site and/or community	Hoover Project X and Health Fair CVCA, Turner school-based enterprises and St. Louis explorations serve community Met and CPESS projects contribute to internship site or community	Do site/community needs figure in project planning? Do students spend time exploring community needs? Do community partners have a voice in the planning process?

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The Six Elements of School-to-Work Reform, continued

3. High School/Post-secondary Linkages	Examples from the NUHS Project	Key Questions for Educators
Articulation agreements with post-secondary institutions	Hoover Transitions project: articulation with University of California, California State systems CPESS college-by-college arrangements All CVCA academies develop articulation agreements	Does the school familiarize colleges with its programs? Does the diploma qualify students for work and college?
Dual secondary/post-secondary credit	CPESS and Met students take courses at local colleges Hoover distance learning project with San Diego State University	Do students take college courses for dual credit? Do staff support students in taking college courses?
Team planning across institutions	Hoover: Triton Project, Distance Learning Classes College of Nazarene works with Business Academy at Hoover St. Louis and Washington U.: Total Quality School The Met: mentors part of learning plan team	Does the school have systems to help colleges understand innovative programs, learning goals, internships, and projects? Does the school make use of local resources?
Program qualifies and prepares all students for four-year college	CPESS: college visits for all, beginning in seventh grade; students make explicit plans in Senior Institute Turner: "Two for One" diploma for high school credit and industry certification Hoover students articulate education goals in portfolio	Are all students encouraged to consider college? Do students receive ongoing preparation and support in selecting a post-secondary institution?

4. Mentoring	Examples from the NUHS Project	Key Questions for Educators
One-on-one relationships in workplace	All Met students have a mentor at internship site Internship students at Turner and CPESS have mentors	Is there time and opportunity for personal relationships to evolve? In internships, is there a mentor apart from the supervisor? Does the school provide a coordinator?
Mentors, site supervisors aware of learning goals	The Met: mentors help shape student learning plans CPESS: site supervisor primer on Habits of Mind Turner: Fannie Mae Academy mentors take part in planning and assessment	Do mentors have a clear understanding of the school's learning goals? Do mentors connect with classroom learning? Do mentors see students' actual school work and work-based activities?
Relationships with adult/community members	Hoover alumni mentors CVCA business partners have active role in mini-schools	Does the school offer opportunities for students to connect to community members?
5. Career Exploration		
Career exploration embedded in curriculum and work-based learning	Academy/strand structure is organized by career at Turner, CVCA, Hoover, and St. Louis Met internship and advisory provide individualized career exploration CPESS post-graduation plan, advisory	Do students explore careers and futures from the beginning? Do teachers see career exploration as a shared responsibility?
Counselor-teacher-employer collaborations	Turner employer partners helped develop ICU's and Fannie Mae Program Met mentors are on student learning plan teams	Are business partners involved in the planning and assessment process? Do teachers, counselors, and business partners have regular access to one another in and out of school?
Experience and understanding of all aspects of the industry	Hoover Business students do neighborhood mapping and interviews, social entrepreneurship St. Louis students do job shadows, interviews CVCA, Turner students learn how to apply for loans, write business plans	Are students exposed to the full range of activity in their career area? Do labor rights, safety, and planning play a role in the curriculum? Do all students get experience with management and planning?

The Six Elements of School-to-Work Reform, continued

6. Supportive Learning Environments	Examples from the NUHS Project	Key Questions for Educators
Small schools, or academies within schools	Hoover strands CVCA and Turner academies	Are all students in small learning communities?
Advisory programs	CPESS, Met, CVCA and St. Louis advisories Hoover humanities classes	Is there regular contact between adults and students about non-academic matters? Are there structured ways for teachers to get to know students as individuals?
Connection to the community	Hoover: alumni mentors, neighborhood projects CVCA, Hoover, Met: adults from community on exhibition panels CVCA and Turner: school-based enterprises Met: parents and mentors on learning plan teams CPESS: community service, internships St. Louis: participation in St. Louis 2004 project	Does the school gives students opportunities to learn about the community and its needs? Are parents, employers, and workers a regular presence at the school and in classrooms? Do parents, community partners, and students play a role in designing and sustaining the program?
Support services for students with needs	Hoover: health clinic, bilingual inclusion in strands CVCA: special education inclusion The Met: mentors, focus on one student at a time CPESS, Met, St. Louis, CVCA: advisories	Does the school attend to the needs specific to its population? Are LEP and special education students included and supported to succeed?

The New Urban High School

U.S. Department of Education

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